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CONTENTS FOR 7 NOVEMBER 1938

Page

THE ACROPOLIS, ATHENS, BY FRANCIS CRANMER PENROSE (1811-1903), PAST PRESIDENT *Frontispiece*

JOURNAL .. 3

OPERATING THEATRES. PART I. W. H. Evans .. 5

REQUIREMENTS IN THE PLANNING OF HOSPITALS .. 21

THE OPENING OF THE SMALL HOUSE EXHIBITION .. 24

SCHOOL OF ANATOMY, CAMBRIDGE. Stanley Hall & Easton and Robertson [*FF.*] .. 27

ARCHITECTURE AT INTERNATIONAL EXHIBITIONS .. 33

BOOK REVIEWS:

THE BIBLE OF MODERN BUILDING .. 35

CIVIC ART AND FUNCTION. Wesley Dougill [*A.*] .. 36

GOOD ADVICE .. 37

LONDON'S BUILDING LAW .. 37

HOUSING RENTS .. 37

A NEW BUILDING CONSTRUCTION TEXT-BOOK. E. G. .. 38

A SOCIAL HISTORY OF ARCHITECTURE. A. C. .. 38

NURSERY AND ELEMENTARY SCHOOLS DESIGN. D. C. H. .. 38

REVIEW OF PERIODICALS .. 39

ACCESSIONS TO THE LIBRARY—I .. 41

CORRESPONDENCE:

ARCHITECTS AND WAR. M. Widdows .. 43

AIR-RAID SHELTERS. H. Austen Hall [*F.*] .. 43

MAILLART AND MOORE. J. J. Cresswell [*F.*] .. 43

OBITUARIES:

FRANK LISHMAN. Theodore Fyfe [*F.*] .. 44

J. F. MUNNINGS .. 44

GILBERT MCGARVA .. 44

NOTES .. 45

MEMBERSHIP LISTS .. 47

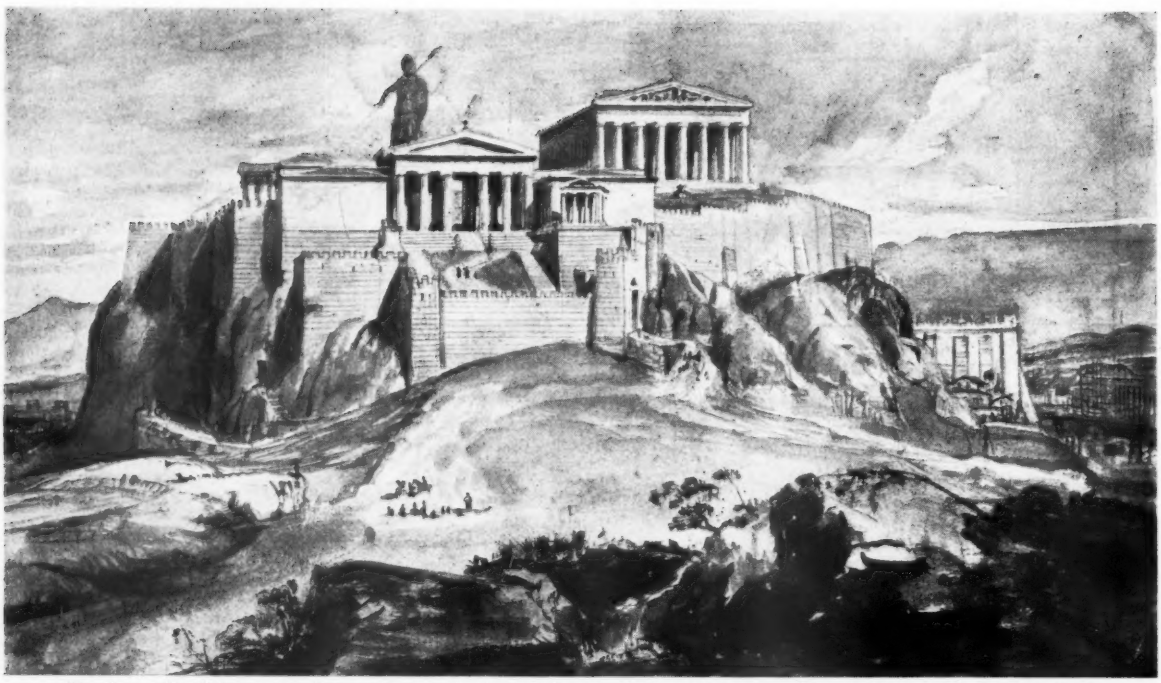
NOTICES .. 53

COMPETITIONS .. 54

MEMBERS' COLUMN .. 55

ARCHITECTS' AND SURVEYORS' APPROVED SOCIETY .. 56

ARCHITECTS' BENEVOLENT SOCIETY .. 56



The Acropolis, Athens—one from a large collection of drawings by Francis Cranmer Penrose (1811-1903), Past President, author of *The Principles of Athenian Architecture*, presented by Miss M. Penrose

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JOURNAL OF THE

ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 46 3RD SERIES 7 NOVEMBER 1938 No. 1

Journal

THE ARCHITECTS' BENEVOLENT SOCIETY

Generally the first JOURNAL in November opens with the Presidential Address. This year, owing to the chances of the calendar, the President's Address is being given on the same day as that on which this JOURNAL is published, so that the report of the meeting must wait until 21 November; instead, we have here another statement by the President, an appeal, which is no less worth attention. An appeal for the Architects' Benevolent Society is something by no means new to this column; indeed, we know that there may have been times when members may even have felt in despair, "Oh, the A.B.S. *again*." It is quite certainly the A.B.S. again and again and again, and it will continue to be so until this appeal which Mr. Goodhart-Rendel makes now is rewarded with support not merely from the comparatively few "benevolent" architects who have always supported it but from the whole of the profession. This is a matter which must commend itself to the profession's goodwill.

Here are some facts: There are less than 1,000 subscribers out of over 13,000 practising architects. The average subscription from the profession is 2s. a head. In 1850 two applicants were helped; in 1937, 116. This year there is likely to be an overdraft of £1,000 unless this appeal meets with good response and there will be overdrafts and a crippled programme in future unless sufficient members undertake *now* to subscribe regularly.

THE PRESIDENT'S APPEAL

I allow this statement to be entitled an "appeal" because I appeal most urgently that it be read. Otherwise I do not feel that one architect need take it upon himself to "appeal" to others for the ending of a state of things that none fully realising it could tolerate. The Architects' Benevolent Society, founded in 1850, is facing rapidly rising demands with an almost stationary subscription list, and the always inadequate funds at its disposal have reached a point at which its activities will be seriously restricted.

That such a benevolent society should lack the support of the members of the profession it concerns must be due to a want not of generosity but of knowledge. More than twelve thousand of the thirteen thousand architects in practice here do not subscribe at all, and probably most of that number have no idea of the Society's need.

In times of obvious emergency, during the war years from 1914 to 1918, and during the economic crisis from 1931 to 1933, architects responded magnificently to special appeals for the Society's work when money was not easy to come by. Emergency is not less through not being obvious, through being hidden in individual lives rather than displayed in a national misfortune. Anyone who reads through the particulars given by applicants in the year 1938 will find there hardship as cruel as any caused by the last war or by the collapse of commercial confidence seven years ago.

I am convinced that everyone who has read this will need no persuasion that much more must be done, and I therefore leave this statement of facts to make its own appeal, especially to those 12,000 architects who do not at present subscribe.

H. S. GOODHART-RENDEL

The Schubert Concert

The Social Committee could hardly have had a better send-off for the session than the concert organised by the Music Group last Monday, when the New Hungarian Quartet played Schubert's Quartets in G major Op. 161 and in A minor Op. 29, for the Schubert Society. The Institute had the pleasure of showing hospitality to a distinguished Society and members of both the Institute and the Society had an opportunity of hearing the quartets played with a restraint and elegance to which the Henry Florence Hall was exactly suited. Particulars of the next concert (of Balkan songs and dances) to be held on 25 November, will be found under Notes in this number of the JOURNAL.

"The Journal of the Royal Architectural Institute of Canada"

The Journal of the Royal Architectural Institute of Canada has just undergone one of those invigorating re-births which seem inevitable in the lives of all those journals that are not irrecoverably dead. We observed the Canadian event with the appropriate sympathies of a parent Institute ; with, indeed, maternal affection, since it is not so very long ago that we ourselves suffered these re-birth pangs. The new journal of the R.A.I.C. is without question one of the best architectural society journals in the world, but that we know may sound a bit too much like damning with faint praise, because it must, alas, be admitted that architectural society journals are not on the whole very remarkable things, excepting ourselves, of course. The Canadian journal manages to stand on its own merits as a readable, well-illustrated paper. It has, to our knowledge, competition from no other Canadian architectural paper, and therefore has the added responsibility of being the only medium through which Canadian architecture and architectural thought can be recorded. We hope that Canadian architecture will in fact provide Professor Arthur, the editor, with a constant supply of buildings worth illustration. This matter is discussed in an editorial in the October issue, where it is suggested that insufficient work is produced from Canada itself for the journal to illustrate. By exercising with discretion their powers of selection, by watching and encouraging the authors of good works (and there can be no greater encouragement than illustration in the only national architectural journal, unless it is a repeat commission) and by casting their net wide to bring in work of all kinds, public and private, large and small, rich and poor, the editorial board and the executive editor can exercise a decisive influence on the development of the architecture of their time and country.

Sir Raymond Unwin, Howard Memorial Medallist

On 23 November 1938 Sir Raymond Unwin will receive the Howard Memorial Medal presented by the Council of the Garden Cities and Town Planning Association in recognition of his services to town and country planning and to the garden cities movement in particular. The presentation of the medal will be made at a complimentary dinner at Grosvenor House, Park Lane, when Mr. Cecil Harmsworth will preside and the Rt. Hon. Walter Elliot, Minister of Health, will be the chief speaker. Some tickets for the dinner are still available and can be obtained (15s. each) from Mr. Gilbert McAllister, Secretary G.C.T.P.A., 13 Suffolk Street, S.W.1.

Visit to the Fire Testing Station

The Science Committee have arranged a visit to the Fire Testing Station at Elstree on Thursday, 24 November in the afternoon. This will be the first official R.I.B.A. visit to the Station, which was opened in November 1935. Since then a sufficient volume of work has been done to indicate that existing practice on fire-resisting construction is likely to be materially altered as a result of the full-scale tests that are being made. A programme of tests has been specially arranged for the visit ; members will be able to see a column under test in the column-testing furnace and specimens in course of erection in the other furnaces. Demonstrations of fire-extinguishing appliances will also be made. Since the Station is under the control of the Building Research Station, the work is closely related to building practice. All members of the R.I.B.A. are invited to attend and to bring friends. A train leaves St. Pancras Station at 2 p.m. and the party will assemble outside Elstree Station at 2.40 p.m. Those wishing to attend should notify Mr. Walter Goodesmith, Hon. Secretary of the Science Committee, at the R.I.B.A. not later than Thursday, 17 November.

Reprints of Review of Periodicals

Members are reminded that subscriptions are now due for the JOURNAL year November 1938-October 1939 (5s., including postage). The Review appears in every number of the JOURNAL—twenty times a year—and covers the 220 periodicals received by the library, of which 113 are from abroad. Reference is made to all articles and illustrations that are thought likely to be of use, so that a subscriber to the reprints (which are printed on one side of the paper only and can easily be mounted on cards) can have at his elbow a constantly growing and up-to-the-minute index to important contemporary work all over the world—an index which it would be impossible for an individual to compile except with great labour and expense. This is a unique service which it is hoped that more members than at present will make use of. It need hardly be said that to architectural societies and schools (which in fact form a large portion of the present subscribers) the reprints are quite invaluable—and in these centres can be consulted by all the architects and students in the district, thus saving much time and trouble in research, or in getting the information from the R.I.B.A. library.

OPERATING THEATRES

PART I

By WILLIAM HUBERT EVANS

This article is a portion of a Thesis, submitted in the R.I.B.A. Final Examination and which the Examiners recommended should be published. Part I, published in this issue, deals with the theatre itself, its lighting, heating, ventilation, equipment and accessories. Part II, to be published in the next issue, will deal with the ancillary rooms of surgical suites. The Thesis is filed in the R.I.B.A. Reference Library.

THE BIRTH OF THE OPERATING THEATRE

The birth of the special room in which surgical operations are performed, as opposed to the "spare room" resembling a slaughter house, used only one hundred years ago, was really the result of three discoveries which have enabled ten times more medical and surgical research to take place in the last century than during the whole of previous history.

The first of these discoveries was the properties of chloroform as an *anaesthetic*. This was made by James Young Simpson. He was born at Bathgate in Scotland in June 1811, and made his discovery in November 1847, being knighted for his services to mankind. Simpson was not quite the first to use general anæsthetics, several persons having used ether for small operations one or two years previously, but his discovery marks the date from which surgery commenced making real progress. Previously, surgical operations were performed as rarely as possible, and were carried through as quickly as possible. The only things the surgeons of those days knew anything about were amputations and the like. Usually, the operation was performed upon a plain wooden table, upon which post mortem examinations were also conducted. The place was rarely cleaned, and often contained dead bodies and parts thereof for weeks, until the odour became unbearable. Any room which was of little use for other purposes was used for operations, regardless of darkness, dirt, and lack of ventilation. The discovery of anæsthetics did not alter the dirty conditions very greatly, but, as operations became more frequent and more complicated, some sort of order started to creep into the theatres.

The second of these discoveries was *antiseptic surgery*. It was made by Joseph Lister, later Lord Lister, who used carbolic acid for surgical operations in 1867. Lister was born at Upton in Essex in 1827, and died in 1912. This discovery cleaned up theatres generally, and got the surgical fraternity really interested in making conditions a little less like those of the morgue.

The third of these discoveries was that which affected the design of operating theatres to the greatest degree. It was the invention of *aseptic surgery*, which is practised most rigidly to-day. The discovery was made by two brilliant men working independently, about the same time. The first was Sir William MacEwen, who was born in 1848, and died in 1924, and the other was Robert Koch, who was born at Klausthal, Hanover, in 1843, and died in 1910. These men realised that the theatre must be kept spotlessly clean, and consequently free from germs. That is why we go to such lengths to-day in order to exclude all dirt from the theatre : in fact, it is upon the theory of asepsis that all modern operating theatres are designed, even the so-called "septic theatres," the purpose of which is described later.

PLANNING

Requirements to Suit Varying Conditions

Some operating theatres, about 1905, were built so elaborately that they defeated their own object, the possibility of having absolute cleanliness in every part. The operating suite necessary for any particular hospital is determined by the type of hospital, its size, its locality , whether the hospital teaches students, and a number of other conditions. The requirements vary from the small cottage hospital of 25 beds, which needs one theatre only, which will probably be used but once a week, to the large general hospital of between 1,000 and 2,000 beds and a surgical school, where as many as 20 operations may be performed each day. The former case requires a small suite comprising an operating theatre, about 17 ft. by 14 ft., a sterilising room adjoining, a small surgeons' changing room and scrub-up, and, preferably, a small anæsthetic room also, although this is not essential. The large teaching hospital will probably require at least five large theatres, with the necessary sterilising, anæsthetic, preparation and recovery rooms, as well as washing and changing rooms for surgeons, dressers and nurses. Where more than one theatre is installed, the anæsthetic and sterilising rooms are often arranged so as to be common to groups of two theatres. This allows a good saving in the cost of apparatus, but is not as satisfactory in practice as cases where each theatre has its own separate rooms.

The staffs in American hospitals are, as a rule, much larger than those in Europe, owing to the large numbers in the medical profession in the U.S.A. We find, therefore, a much larger proportion of operating rooms in American hospitals than is usual this side of the Atlantic, especially on the Continent. For example, the large hospital of Virchow, at Berlin, having 2,000 beds, has only four operating theatres, one of which is septic, and the Schwabing hospital at Munich, with 1,000 beds, has only one theatre for aseptic cases, whereas, at Massachusetts general hospital, with 250 beds, they have five theatres, and at the Grace hospital at Detroit, having 200 beds, there are four theatres.

The size and construction determine the layout and equipment of the surgical suite. It may be in the form of a separate *surgical block*, or incorporated in a special wing of the hospital, or embodied in the main buildings. Even smaller hospitals often have two operating theatres, one known as the *septic* theatre, and the other as the *aseptic*. The septic theatre is reserved for operations on parts which are already infected or dirty, for example, removal of abscesses, accident cases, gall-bladder and certain intestinal operations, and the aseptic theatre is for all operations where the parts to be operated upon are already clean, and must be kept so. The idea in having a special septic theatre is to prevent the infection of clean wounds by germs introduced from septic cases, which sometimes occurs, despite the careful measures taken for its prevention. In hospitals having a number of theatres, each theatre may be allotted particular groups of cases only. Each theatre is enclosed by the various auxiliary rooms required in every modern unit.

Sterilising rooms immediately adjoin the theatre, and contain the apparatus for sterilising by heat all the instruments and materials used during operations.

Preparation rooms are for the disinfection of the patient, and contain a disinfecting table, surgical dressing table, instrument tables, bowl stands, bottle racks and staff stools. *Anæsthetic rooms* contain the anæsthetic trolley for the patient, a chair for the anæsthetist and tables for utensils. *Preparation rooms* for surgeons consist of a changing room, sometimes a shower, and always a number of surgical wash basins.

The position of theatres is a matter of opinion, but, if possible, the operating department should be isolated from the rest of the hospital. The aforementioned surgical block is best, with a special wing or floor being second and third best, respectively. There is a tendency to build theatres comparatively small nowadays, especially in the U.S.A. No absolute dimensions can be taken as being ideal for all theatres, as they will vary according to the purposes for which they are employed, whether or not students are accommodated, whether septic or aseptic, and whether for major or minor operations. For an ordinary theatre for general major operations, aseptic, and accommodating no students, 18 ft. wide by 24 ft. long, with a minimum of 14 ft. by 18 ft. is sufficient. For a similar theatre, but for minor operations only, 14 ft. wide by 16 ft. long with 12 ft. by 14 ft. as a minimum. The ceiling should be at least 12 ft. in height, and some authorities prefer up to 20 ft., but this seems rather excessive.

In the case of a large hospital, a small laboratory, equipped for quick diagnosis, is desirable in the vicinity of the theatres, especially in cases where the main laboratory is not close to the operating department.

It often happens that it is the job of the architect to design new theatres or operating suites for existing hospitals. This is, as a rule, more difficult than designing a surgical suite for a complete new hospital. In any case, very few hospitals are built completely in one contract, but are added to and improved upon from time to time. In these cases, the arrangement of the suite obviously depends largely upon the positions of existing buildings. A very interesting example of what can be done in a very cramped site is the new surgical department at St. Bartholomew's Hospital, London, designed by Messrs. Lanchester and Lodge [*FF*]. It consists of a series of identical operating suites arranged one above the other, five in all. Lifts connect the floors, and common sterilising and anæsthetic-supply rooms are provided in the basement. These are more fully described later.

The following are some very interesting notes* on the layout of adjacent services to operating theatres, by Melbourne Thomas, M.B., B.S. (London), F.R.C.S.E. Mr. Thomas describes a *three-zone steriliser-barrier plan* for the " immediate-adjacent " services of an operating theatre.

> " No mention is here made of anæsthetising rooms, bulk storage rooms, staff dressing rooms or drum sterilising rooms, such as may be placed a little way removed from the theatre. The plans generally carried out for these ' immediate and adjacent services ' show such a lack of uniformity as to suggest the non-existence of properly defined underlying principles and the weakness of such plans is best revealed by studying the conditions obtaining after the completion of the fourth or fifth operation of a series, when the congestion impedes the services and strains the efforts to maintain asepsis.
>
> " There are in fact underlying desiderata such as would govern good planning, and it is the purpose of this communication to formulate them as understood by a surgeon and a hospital administrator, and further, to suggest what appears to me to be the logical sequel in planning to give effect to them. I would, moreover, be so bold as to suggest that if the above tenets are correct, there follows a basis for substantial standardisation in design and equipment.
>
> " It is necessary to explain what the above services are, required as ' immediate-adjacent,' viz.:—
>
> " *Disposal.* For Incineration—for Laundry—for Pathological Examination.

* Originally published in *Architectural Design and Construction*. 1937. July. 353 pp.

"*Cleaning of Appliances*. Infected instruments—infected utensils—instrument trolleys.

"*Storage*. Instruments and utensils — non-sterilisable appliances—sterilised linen, etc.—lotions, etc.

"*Sterilisation*. Of instruments—of utensils.

"*Equipping*. Of fresh trolleys for theatre.

"*Hand Scrubbing*. Surgical and nursing staff.

"*Gowning and Gloving*. Surgical and nursing staff.

"The principles governing the conduct of these are as follows :—

"A. Traffic Lines. There should be a minimum of crossing of the traffic routes of infected and clean or sterile materials to and from the theatre.

"B. The nurse assembling and dispatching sterile equipment to the operating rooms should be isolated from possible contact with infected material emerging from the theatre. N.B.—Sterility in theatre practice is a relative term, but the environment of this nurse can and should be immune from contamination.

"C. A number of other matters, relatively minor to the above, are not being mentioned here, to avoid obscurity.

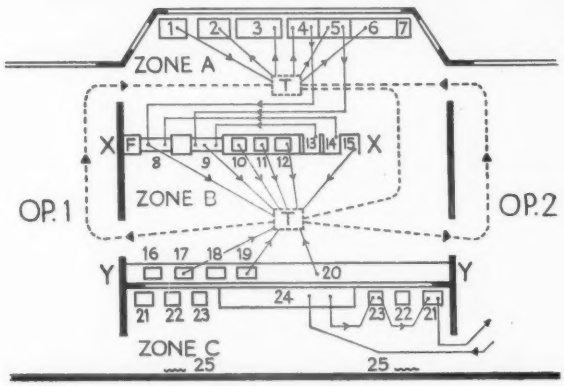
"Simple traffic arrangements and a working degree of isolation for the aforementioned nurse can be obtained by designing in one room adjacent to the operating room, or situated between twin theatres, three zones of activity, A, B, and C, separated by two barriers, X and Y, and having three communications with one or both operating rooms. All this is shown in the accompanying diagrams.

"Zone A receives from the operating room infected material for disposal, or washing preliminary to re-sterilisation. It also provides storage room for appliances to be sterilised, and the nurse operating there initiates this process. The barrier X is in effect a built-in battery of sterilisers for instruments, utensils and lotions. It also affords storage room for sterilisable and non-sterilisable instruments and utensils. It should be noted that the appliances are 'posted' in it from Zone A and are 'collected' from it at Zone B. They are thus sterilised in their passage through the barrier.

"Zone B is the assembly and dispatch area for the sterilised equipment for the operating rooms. Barrier Y should be about 6 ft. high, and made preferably of glass in its upper 2 ft. Zone C provides facilities for the staff's repeated hand-scrubbing, gowning and gloving. The 'scrub-ups' could be re-arranged in this zone so as to allow each surgeon, whilst washing, a view of his operating room."

The following diagram, which is not drawn to scale, shows the relevant traffic lines of twin operating rooms, as they would materialise in the above "three-zone steriliser-barrier" design. There seems to be a great deal in favour of Mr. Thomas' system. Generally there is far too little co-operation between surgeons and architects, and the personal view of a surgeon on a matter of this description is valuable.

Therefore, a plan based upon this system would be a great asset in a busy general hospital, especially one situated in a large city, which would probably have a large number of casualties to deal with, apart from its ordinary surgical cases. In a small hospital, having comparatively few operations, it would not be so desirable, but nevertheless would be as good as any other system and, since it apparently is no more expensive than the others, might well be employed.



Layout of adjacent services to operating theatres by Melbourne Thomas, M.B., B.S., F.R.C.S.E.

ZONE A. 1. Pathological Spec. 2. Chute for incineration. 3. Chute for laundry. 4 and 5. Instruments and utensils (washing). 6. Mackintosh board. 7. Cleaning

BARRIER X.X. F. Flue for steam. 8. Steriliser (bowls). 9. Steriliser (water, cold). 10. Steriliser (water, hot). 11. Steriliser (instruments). 12. Steriliser (saline). 13. Cabinet (instruments). 14. Cabinet (utensils). 15. Cabinet (non-sterilisable instruments).

ZONE B. 16-19. Drums (sterilised). 20. Stores.

BARRIER Y.Y. ZONE C. 21. Gloves. 22-23. Gowns. 24. Hand scrubbing. 25. Mac. aprons.

T. Trolley.

Accommodation of Students

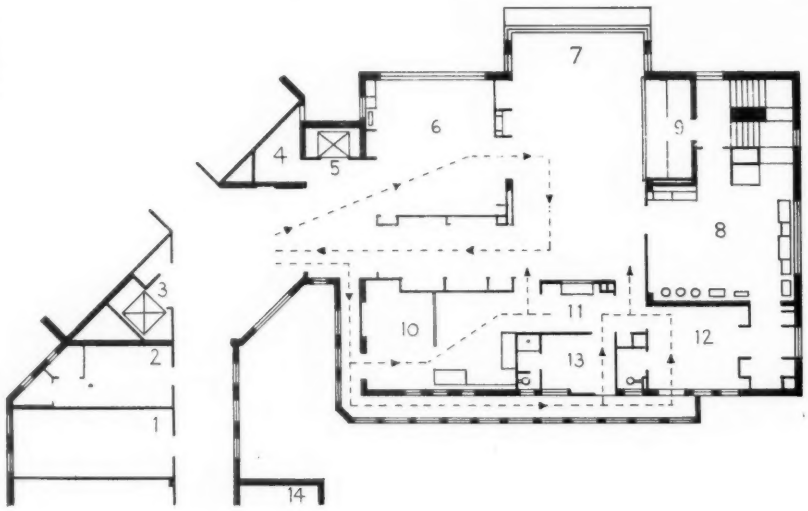
The provision of accommodation for students in an operating theatre is a difficult problem. A limited number only can have a satisfactory view of the proceedings, as, in order to obtain a good view, the students must be fairly close to the operating table. About 1875 a number of large theatres, having space for 200-300 students, were constructed. These obviously endangered asepsis, especially as they were provided with wooden benches and floors, whilst those students sitting towards the back had a very poor view of the operation. About 1912, authorities gave a figure of 50 students as a maximum, with 35 as an ideal number, but to-day about 20 is considered to be sufficient. The happy medium between keeping the actual operating area aseptic and allowing students to have a good view of details is difficult to arrive at, even if only 20 students are accommodated. About 1900 they tried the effect of installing mirrors above the table, fixed at an angle enabling students to see a reflection of the operation, but these were found to complicate the operation for the students, as well as acting as dust collectors, and being in the way of operating lamps.

Students should be accommodated high enough up

ST. BARTHOLOMEW'S HOSPITAL, LONDON. By Lanchester and Lodge [*FF.*]

One of a suite of five theatres arranged vertically above one another in a large teaching hospital. Note the easy circulation

1. Patients' friends' room.
2. Women's lavatory.
3. Passenger lift.
4. Cleaner.
5. Service lift.
6. Anæsthetising room.
7. Operating theatre.
8. Sterilising room.
9. Students' gallery.
10. Dressers' changing room.
11. Surgeons' wash-up.
12. Nurses' changing-room.
13. Surgeons' changing room.



to be able to see down on to the table, in order to see into surgical cavities as far as possible, but not so high up that detail is lost. They should be behind terrazzo covered walls, rising to chest height, glass screens being fixed on the tops of the walls. These screens should be of non-splintering glass, to avoid accidents, and should be fixed sloping outwards and upwards from the top of the wall, to prevent falling dust particles and deflect breath. The students should enter direct from an outside corridor or ante-room, and should not have any direct communication with the operating area. The gallery or dais should be on one wall of the theatre only, so that the operation can then be arranged to face all the students as far as possible. If accommodation is provided on both sides of the theatre, those on one side will be unable to see much of the proceedings. The students should not be entirely cut off from the theatre, because condensation is liable to occur on the glass window through which they look, also they would then be unable to hear any remarks made by the surgeon, and miss the theatre " atmosphere " to which they should become accustomed.

The students' gallery need not be raised more than 2 ft. 6 in. from the floor of the theatre in order to obtain a good view, being virtually a dais rather than a gallery. If a higher type of gallery is used, doors, cabinets, etc., in the theatre can be beneath it, thus saving space. The view is also likely to be better in a gallery of this type and, since the students are then above the level of most types of operating lamp, they do not disturb the surgeon by their movements, as they become only dimly visible from the table.

The flooring to students' galleries is preferably of rubber, in order to prevent noise. Bench seats should be provided, being made of enamelled metal or hardwood, also small desk shelves for notebooks. The shelves should be provided with small concealed lights, the bulbs being screened from the eyes of the students, and from the theatre.

The sloping glass screen, previously described, is more necessary in the case of a high gallery, but, if one is not provided, masks should be worn by the students, even if the low dais accommodation is provided.

The large theatres of the nineteenth century, having space for about 300 students, were arranged in the form of amphitheatres. Rooms of this type are still in use in many hospitals, especially on the Continent, but, in most cases, they are used for lecturing and post-mortem demonstrations nowadays, and not for operations. They serve this purpose quite satisfactorily, although detail is difficult to follow, and there is little in their favour.

Although, as previously stated, the dais does not give such a satisfactory view as the higher gallery, it has one great advantage, namely, the everlasting asset of comparative cheapness. Not only is the platform itself cheaper to construct than a gallery, but the staircases, etc., essential for the latter then become unnecessary.

A projection apparatus for demonstrations in surgery has recently been invented. It is known as the *B.B.T. Scialyscope*, and combines the advantages of the Scialytic lamp with a special system of projection. The addition of a periscopic device gives the projection of a clear, magnified picture of actual operations in natural colours on a screen in a room adjoining the theatre. This gives an unobstructed vision for students, yet they are not in the way of the surgeon. All details are most

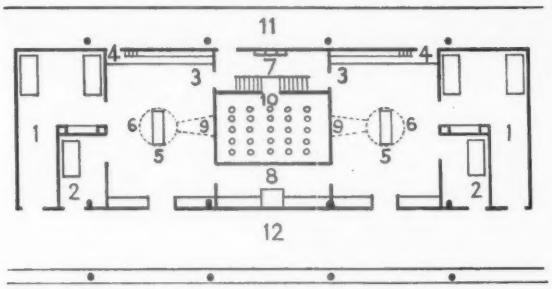
clearly seen by all. The advantages of this apparatus are as follows :—

1. All risk of sepsis is dismissed.
2. The number of persons able to see is only limited by the size of the adjacent room.
3. The absence of all persons in the theatre, other than the surgeon and his assistants, gives them complete freedom of movement.
4. There is no danger of germ carriers.
5. Spectators obtain a correct and magnified reproduction in natural colours.
6. The lamp provides brilliant shadowless light on the table, heat radiation being eliminated.
7. The apparatus can be tilted to reproduce operations in inclined positions.
8. A microphone can be placed near the projector, with a loud-speaker in the adjoining room, enabling the surgeon himself to give verbal explanations to the students.

The illumination is similar to that of the Scialytic lamp, the same principle being employed. Radiant heat is eliminated by the introduction of segments of special chemical composition within the lens. This is known as the Fresnal lens. A natural daylight effect is obtained by the employment of special glass for the trapezoidal mirrors. Projection is obtained from a periscopic device attached beneath the light, composed of an objective lens, combined with two reflecting surfaces, which throw an accurate reproduction of the operation upon the screen. The device is placed at a sufficient distance from the table to avoid interfering with the free movement of the surgeons. Adjustment is easily obtained by means of a device enabling the objective lens to be pointed towards the operating field, at the same time allowing the cupola of the lamp to be tilted until the light-patch coincides with the point focussed by the objective lens, which can be tilted to 30 deg. from the vertical. Focussing is obtained by means of a simple rack and pinion device attached to the objective lens. This is controlled from the adjoining room by means of a small hand-wheel, so as not to trouble the surgeon.

The screen is in the form of a circle, of 39 in. diameter, the reproduction being magnified three times. The screen is framed in a panel, which is adjustable to follow changes in the position of the objective lens. The weight of the apparatus is about $4\frac{1}{2}$ cwt., being fixed to the ceiling by a bracket with a cradle support. The optical characteristics are calculated to give a maximum clearness of vision. The minimum dimensions of a theatre in which it is desired to instal a standard Scialyscope are 12 ft. by 8 ft. by 11 ft. 8 in. high. Special apparatus can be made to order, for installation in rooms having smaller dimensions than these, although such cases are, of course, very rare.

The recognition of great advantages and interesting possibilities of cinematography as a means of instruction in surgery has led to the invention of an apparatus by



Viewing room with two Scialyscope screens between a pair of operating theatres in a project for Lille Hospital, France, by Paul Nelson

1. Recovery room. 2. Anæsthetising room. 3. Operating theatre. 4. Students. 5. Operating table. 6. Lamp. 7. Surgeons' scrub-up. 8. Sterilising room. 9. Scialyscope. 10. Students' corridor (window to theatre over). 12. Corridor.

Dr. A. von Rothe, of Berlin, who has constructed a camera answering all practical requirements. The apparatus consists of a globe about 1 ft. in diameter, enclosing the optic. The globe is suspended from the ceiling by means of a tube of about 6 in. diameter, which carries the moving film-strip from the globe to the turning apparatus above the ceiling. This tube slides into another, of slightly greater diameter, near the ceiling level, joining the motive and receptive parts of the apparatus, and facilitating raising, lowering and turning of the optical globe. There is also a telescopic device attached to the optic, for focussing purposes, as well as a time meter. A table is supplied with the

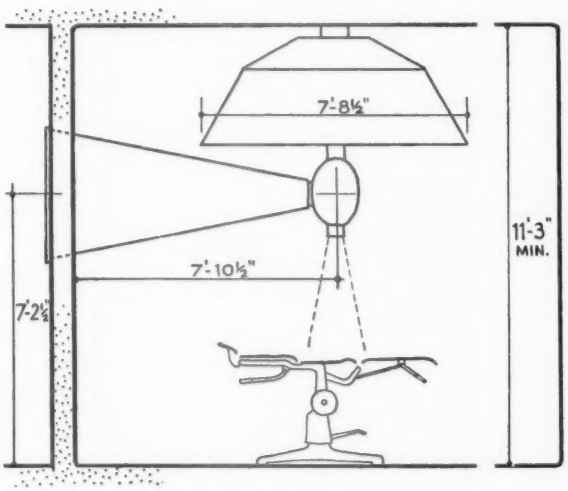
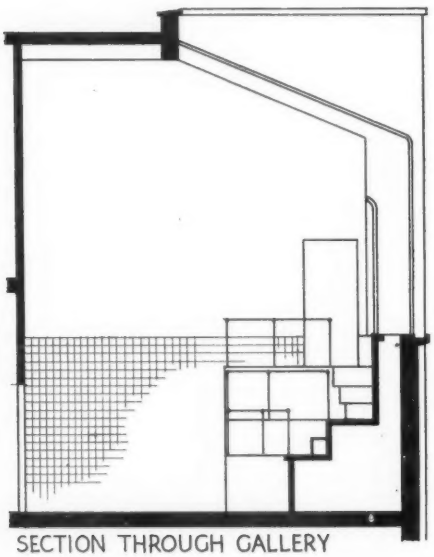
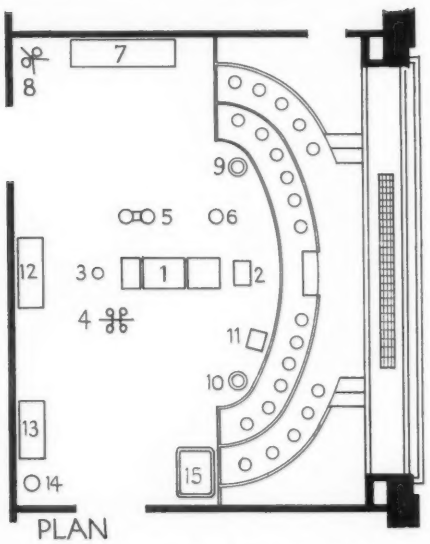


Diagram of the Scialyscope, which projects an enlarged view of the operation on a screen in an adjoining room





Major operating theatre at the Sloane Hospital for Women in New York, by Crow, Lewis and Wick. Built in 1921.

This plan gives a first-class view from all 22 students' seats, and if dwarf walls and glass screens were added would still be considered ideal to-day. A Plenum heating system is employed.

1. Operating theatre. 2. Surgeon's stool. 3, 4. Anæsthetist's stool. 5. Double drum stand. 6. Single drum stand. 7. Instrument cabinet. 8. Irrigation stand. 9, 10. Solution basin stand. 11. Instrument stand. 12. Nurses' table. 13, Table and shelf. 14. Soiled dressings receptacle. 15. Surgeons' sink.

apparatus, fitted with rubber-tyred wheels, and containing the necessary switches, etc., including a pedal interrupting switch. This apparatus is best installed in a theatre having a method of lighting behind a false glass ceiling, when it does not get in the way of the operating lamps, although it can be obtained incorporated with a shadowless lamp, but is not yet perfected in this form. The length of the film is 650 yards, or 30 minutes long. The motor, reels, lamps, etc., are installed above the double glass ceiling as a rule, but the apparatus is also obtainable mounted wholly on a special mobile support.

Summary

The disadvantages of the Scialyscope are three in number. Firstly, although the students obtain a splendidly detailed view of the operation, it is necessary for them to see operations from the theatre itself at times, in order to obtain the operating theatre "atmosphere" and to see the work of the assistants, position of the table, etc., which are not visible upon the screen. Secondly, the price of the apparatus is rather excessive, although this will, no doubt, decrease as it gains in popularity. Thirdly, the apparatus, on account of its size, and rather ungainly shape, is liable to become a dust collector.

The disadvantages of the Rothe cinematograph camera are the same as for the Scialyscope, plus the noise from the operating machinery, although, owing to the smaller size of that part of the apparatus inside the theatre, it is not such a bad dust collector as the other.

The "pros" and "cons" of the student galleries and dais have already been fully discussed. Provided the number of students accommodated is not too large, that they are safely railed from the operating area by means of terrazzo walls and glass screens, and that they do not have to come into contact with the theatre proper in order to reach their places, there is nothing to be said against their presence. Whether the high gallery or the low dais is installed, is governed by individual tastes, requirements, conditions and finance.

In a large teaching hospital, it would be ideal to have all three types of installation—galleries, Scialyscope and camera, in different theatres, of course, to give the students the benefits of each type. A combination of the first two would cover most cases, and is to be recommended for all large teaching hospitals.

NATURAL LIGHTING

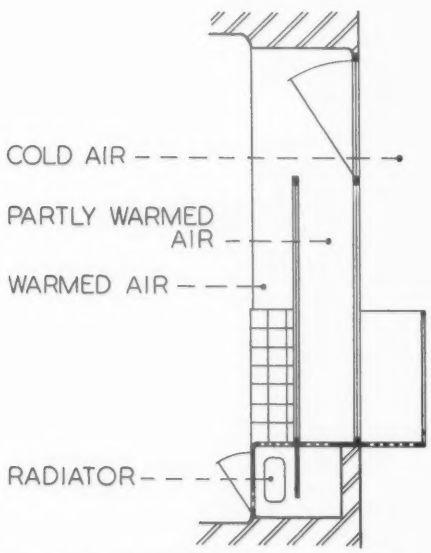
At one time, before artificial lighting had reached its present state of high efficiency, natural lighting for operating theatres was of the greatest importance. Today, although spacious windows are usually provided, it is not so important, and it is strange that so much trouble is taken to ensure good natural illumination. In earlier days, windows also formed the sole method of ventilation, but nowadays we have numerous artificial

methods, many of which are considered to be preferable to direct ventilation via windows. Therefore, it will be seen that windows for operating theatres are practically redundant ; at any rate, this may be said of the more expansive types which aim at admitting as much suitable light as possible. The Americans seem to have been the first to have realised the redundancy of special windows and roof lights ; indeed, several of their latest theatres have been constructed with no natural light whatsoever. Types of windows and skylights admitting light of ample strength and diffusion for the performance of the most intricate operations have been invented, but these only work well when the sky outside is bright and sunny, which is seldom in this country. Therefore, methods of artificial lighting have to be installed in addition. Anyway, natural light is unobtainable at night, so that the installation of expensive windows seems to be a waste of money. The number of surgeons who actually prefer to work by natural daylight is small nowadays, the reason being that very few of them have ever tried it. Probably the provision of large operating windows is a tradition rather than anything else. No doubt the old surgeons of the days before good artificial lighting had rather conservative views and did not take kindly to " new-fangled " electric lights when they were eventually introduced. Now that this " old school " of surgeons is dying out, and the young surgeons are being trained to operate by artificial light, it is probable that special operating windows will gradually die out. But it may be desirable to provide a small window to illuminate the theatre for cleaning and preparation purposes, it being wasteful to employ electric lighting in these cases. However, as special windows are still in vogue, it is necessary to deal with them.*

Windows to operating theatres should, wherever possible, face north in the northern hemisphere, and south in the southern hemisphere. Within the tropics, a window facing due north or south, as the case may be, will also receive direct sunlight at the times of the solstices. This is very undesirable because of dazzle and heat. Therefore, the optimum angle of incidence of the sun's rays must be determined in each case, according to the latitude and hemisphere, and a suitable hood provided. The window may cover the whole width of the theatre, and the access of lateral and vertical rays of light should be unhindered, the latter, if possible, falling vertically upon the table. Up to about 1909, wooden windows were considered as good as the then very expensive iron framed ones, but when the steel framed window was introduced it soon found universal favour on account of its thin bars, which avoided screening off light and casting shadows. This point about throwing heavy shadows is greatly stressed in most text books, but, if no direct sun rays are allowed to enter owing to the correct aspect being selected, there will be no heavy shadows in any case. Nowadays, windows fitted with a special screen to prevent draughts or double glazed windows fitted with roller shades between the two windows are often employed. These are desirable except in the cases of mild climates or protected sites. Double windows eliminate cold air currents, and condensation, which affects both aseptic conditions and light, is less likely to occur. The air between the two windows may be continuously heated by radiators, or from a heating duct where a jacket heating system is used. Also, in hot weather a supply of cool, filtered and slightly humid air introduced at the bottom, and extraction of the warm air at the top, keeps the theatre cool. In the case of a single pane window, a cooling effect may be obtained by spraying the window with water externally, special spraying tubes sometimes being provided for this purpose.

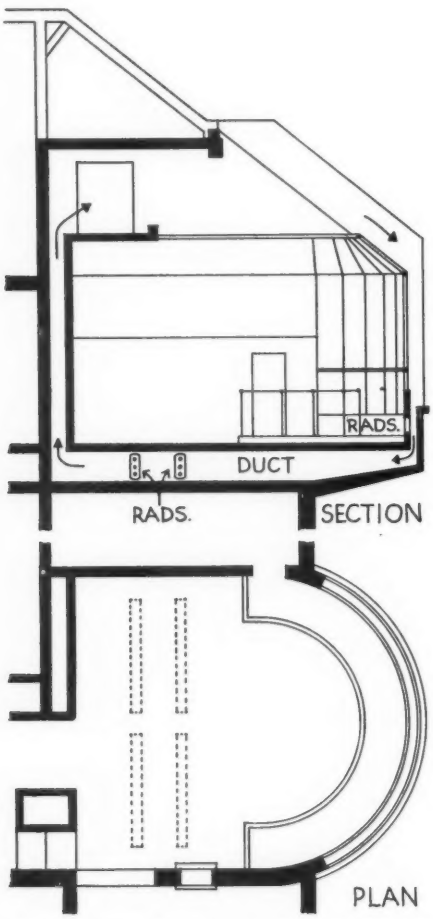
Bay windows are sometimes used to light the table from several directions, and in some cases curved panes of glass can be used for combining vertical windows with skylights, without heavy shadows. Since the panes of glass in all types of window should be as large as possible, to admit the maximum light, the glass should be 8-12 mm. thick, to minimise breakage.

If the operating window is used for ventilating the



Operating theatre window designed to avoid draughts and condensation. This type of window originated in the U.S.A. about 1922, and is widely used there

* From an A.R.P. point of view, the very large theatre window has the great disadvantage of being almost impossible to sandbag or otherwise render splinter proof. Of all building units, operating theatres most need to be capable of full use during air raids.—TECHNICAL EDITOR.



Operating theatre at the maternity hospital of the Canton of Berne, Switzerland, by Gugger and Brönnimann.

An interesting example with accommodation for students. The lighting is by lamps above a false glass ceiling. This is so efficient that no local illumination is necessary. The jacket heating system is notable, and is supplemented by plate radiators beneath the windows

theatre, it should be provided with large revolving lights, the number and size of which are, of course, governed by the size and requirements of the particular theatre. This type of opening light closes tightly, is easier to open and close than bottom, top or centre hung lights, and does not collect so much dust as other types. In tropical or sub-tropical climates, a screen of close-mesh stainless bronze wire netting, completely enclosing the revolving light, should be provided to prevent the ingress of dirt and germ-carrying insects when the window is open. Should the window face the direct sun at certain hours, a roller blind on the outside is necessary.

A toplight may be considered necessary in order to obtain enough vertical light on the table. In a multi-storey building, this can be done by building the theatre as a projection from the main hospital. This is known as an *operating theatre bay*. Side windows are generally unnecessary and may even be disturbing.

The type of glass is important in determining the amount of window necessary. Plain transparent glass should be used where external conditions permit. The absorption of light rays of vertical incidence by different types of glass is as follows :—

Plain glass (one thickness) ..	4 per cent.
„ „ (double windows) ..	9-13 „ „
Etched glass	10 „ „
Plate glass ($\frac{1}{4}$ in. thick)	6-10 „ „
Granular Cathedral	15-20 „ „
Ribbed Cathedral	23-45 „ „
Hammered Cathedral	12-14 „ „

This table was compiled by S. A. Schaerer, the eminent Swiss authority.

In damp tropical climates, brass, bronze or other stainless metal should be used for frames, as this is not so liable to destructive oxidisation.

An invention which has greatly improved the natural lighting of operating theatres is known as the "*honeycomb screen.*" This was designed by Prof. E. Heller, of Leipzig, on the Garny system in 1929. It is designed to be fitted beneath a roof light, and slides back into a false ceiling when not required. It runs on rails and is moved by means of a hand crank and steel wires, the latter running in a chase in the theatre wall. The screen is in the form of a rectangular box filled with a mass of vertical honeycomb cells made of sheet aluminium or preferably duralumin of about 1 mm. thickness. The dimensions of the cells are carefully calculated, so that, when the sun is at its highest altitude, no direct rays pass through the screen on to the table, but only reflected light from the interior walls of the cells, which are painted white.

Frosted glass screens are sometimes used instead of honeycomb screens ; in fact, they were used long before the invention of the latter. They are thinner and cheaper but not nearly as good. They are moved horizontally in a similar manner. The mobility of any form of toplight is a feature with very great advantages, especially on a dull day, as either type of screen entails considerable loss of light under these conditions. The amount of light absorbed by a matt glass screen is 22-25 per cent. on the table, and in the case of the honeycomb screen, the percentage is slightly higher.

In sunny weather the honeycomb screen gives a peculiar soft but intensive light, and since the rays are brought more closely together the table is brightly illuminated and the rest of the theatre only comparatively dimly lighted. On the other hand, the frosted

glass screen gives a hard and troublesome light which, owing to the light diffusion, illuminates the whole theatre to almost the same intensity.

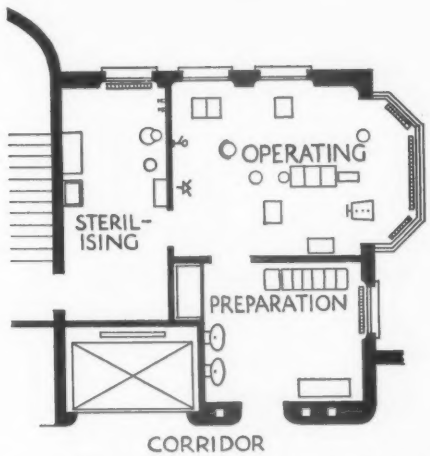
Another great advantage of the honeycomb screen is its power of heat absorption. It absorbs solar heat to such a degree that it may make a theatre over 30 deg. F. cooler in summer than a similar theatre not provided with one. If a toplight with a honeycomb screen is provided there is usually no need to have any vertical windows in the theatre, which is an advantage, as it leaves the fourth wall free for cabinets, students' stands, or any other fitments. Should it be found desirable to have both a vertical light and a toplight, the latter should be brought forward to the top of the former, the two being connected by curved panes of glass if possible, as previously described. In the case of a roof light composed of a lantern light fitted with a laylight, the outer glass roof should be as flat as possible to reduce the loss of vertical light by reflection on the laylight.

Reverting to the ordinary type of vertical operating window, there are a number of points which should be remembered. Where the theatre may be overlooked from the outside, the windows should be fitted with frosted glass. The frosted surface should be on the inside to prevent disturbing reflections. The best kind is etched glass, as this absorbs only 10 per cent. of the light passing through it. A grey blind or screen should be provided : in the case of double windows this should be between the two panes. This is best operated by a belt in a chase (in the wall beside the window) having a removable panel, if the ordinary roller blind is used, but if a heavy screen is used electrical mechanism may be necessary to operate it. Blinds are best fixed to rise from the bottom of the window, as it may be necessary to raise the blind to cover the lower one-third of the window only, thereby shutting out the low lateral light, which is not of much use in operations where the patient is in a horizontal position. At night, the blind should be completely raised, to prevent persons outside seeing a reflection of the operation in the toplight if one is provided.

Summary

Reverting to the earlier statements concerning the redundancy of special large operating windows, the original theory may be reaffirmed. In a medium-sized typical theatre used for general hospital purposes in Great Britain, and having a first class lighting installation with an emergency supply source as described in the section on artificial lighting, an efficient form of mechanical ventilation as described in the section on that subject, and a staff of surgeons devoid of any peculiar "natural light complexes," a large special operating window is quite unnecessary. A small window should be provided to allow light enough for cleaning, etc. This should be of steel frame fixed shut and should be a double window. A dark blind should be provided between the two thicknesses of glazing. The glass should be fixed as nearly flush with the plain internal surface of the special section glazing bars as possible, the latter being heavily cellulosed or enamelled in agreement with the colour scheme adopted. Since a dark blind is to be provided, the aspect of this window is immaterial, but in many cases it would be better to fix it fairly high up, so that persons could not look directly into the room (if it were on the ground level), and also fitments might be provided below it if desired.

Should natural lighting for operating purposes be insisted upon by the authorities of a hospital, there is one type which is far superior to the others. This is the roof light fitted with a sliding honeycomb screen, and a plain glass laylight beneath it, to prevent dust particles falling on the table.* If this type of window is provided, there is no necessity for any windows in the walls of the theatre at all. A dark blind should be provided above the laylight for use at night or at other times when artificial light only is required. There are three drawbacks to this type of window. Firstly, the cost is rather high ; secondly, the provision of a hollow ceiling to house the honeycomb screen when not required may be a structural difficulty ; and thirdly, a roof light cannot be employed in cases where there are other rooms above the theatre. If the last two difficulties do not present themselves, the extra cost of this type of window is well worth while, especially in countries where the sunlight is plentiful, as, under these



Surgical unit of the Aarberg District Hospital, Switzerland

A very simple single theatre unit with a conveniently situated bed lift giving good access from the lower floors—the unit being on the top floor

* An operating theatre with toplight would be useless under air-raid conditions.—Technical Editor.

conditions, the light obtained is nearly shadowless, and of suitable intensity for operating purposes. In cases where the provision of a roof light is impossible, yet natural lighting for operating is still required, one of the many projecting types having a curved horizontal head would appear to be best, as these give a certain amount of the vertical light rays so necessary for operating purposes. The size and exact type cannot be fixed, owing to the varying requirements of the theatre, its size, aspect, prospect, and the amount of money at the architect's disposal, but several suitable types are shown in the accompanying illustrations.

GENERAL ARTIFICIAL LIGHTING

The artificial light of operating theatres is very important, and makes a very interesting study. Many people have realised its importance (and some, possibly, the monetary reward awaiting the inventor of an ideal system), with the result that the number of types which have been experimented with is very large. Although there is no strict dividing line drawn between general and local artificial illumination, as in some cases one system has served both purposes fairly satisfactorily, and, in any case, the two systems should blend, the two branches are usually thought of separately, and it would seem simpler to deal with them under separate sub-headings here.

Firstly, it is necessary to explain the meanings of the terms " local " and " general," as applied to this branch of electrical science. " General illumination " means the adequate lighting of the whole theatre treated as a simple room. " Local illumination " is the lighting of the area round the operating table, which is known as the " operating field," and particularly the table itself.

General lighting should be as far as possible a perfect substitute for natural daylight. A strength of 500 " lux " units on white is necessary for perfect visibility, but, as the operating field is not very white and reflects only 10 per cent. of incident light, local illumination, which is described in full later, becomes necessary in most cases. The light should be soft, a hard glare being particularly disturbing to persons carrying out the responsible and arduous occupation of surgical operating, and any flickering and related phenomena must be rigidly avoided. There must be no marked heat radiation to upset the temperature of the room, which is usually very important, and an absence of deep shadows. In the earlier days of electricity either carbon filament or " Nernst " lamps were used, but nowadays they are largely replaced by far superior metal filament glow lamps giving a far whiter and more economical light. These are usually known as " ½ watt lamps." Nevertheless, arc lamps are still used in many cases, although few are now being installed in new theatres. " Geissler tubes," which have a cold luminescent light well suited to operating conditions, have been widely used in the past, especially in Germany, and are still being installed in some modern theatres ; in fact, during the last three years there seems to have been a slight revival of this method.

There are three basic systems of general illumination : *direct*, *indirect* and *semi-indirect*. The last method has generally been found to be the most satisfactory, although for certain applications one of the other methods may be better. The first method is that in which the light reaches the room direct from its source without any reflection or breaking up of the beams en route. The second is where no light reaches the room directly from the lamp, but is reflected either by reflectors attached to the back of the lamp (direct rays being screened from the room and thrown back on to the main reflector by a secondary one fitted in front of the lamp), or by the ceiling of the theatre itself. The third method is one in which a special type of lamp is used, or alternatively in which some lamps give direct light and some totally indirect. As there seems to be little to commend the employment of two types of lamp in one theatre for the purpose of general lighting, this method may be neglected, although there have been cases in which it has been used quite effectively.

The other method of semi-indirect lighting seems to be the most sensible and therefore the most common, and there is a general type of lamp which gives this asset satisfactorily. There are various minor differences in lamps constructed by different manufacturers, but these do not seriously affect the result obtained. These " suspension globes " are arranged to give a bright illumination over a limited circular area, and a subdued light over a wider spread circular area. This is very desirable, as the lamps can be arranged to throw their area of bright light over the several fittings in the room which require brighter illumination, leaving the less important area bathed in a more subdued light. These lamps are fitted with 100 or 150 watt bulbs as a rule, and consist of an opal reflector of one foot diameter to transmit the indirect lighting, the direct lighting passing through a filter cover of frosted glass of about 5 in. diameter fitted concentrically with and inverted below the reflector, giving a ring of reflected light in the form of a continuous band 3½ inches wide. The lamps may vary from 2 to 10 in number, according to the size of the theatre, and are usually suspended so that the lowest point is 15½ inches from the ceiling.

As previously stated, " Geissler " tubes are still being installed in some theatres. They are by no means a new invention, but like the ordinary electric bulb have been vastly improved recently, especially as they are closely related to the multi-coloured " Neon " tubes which are now so widely used for advertising purposes. An Englishman, Farlan Moore, saw the possibilities of this type of lighting for operating theatres as long ago as 1901. He carried out experiments on the Geissler

tubes, eventually bringing out a perfected version for operating purposes in 1904, which is the one still used, and still bearing his name. The light is produced by passing a high voltage and high frequency alternating current through transparent glass tubes containing highly rarified carbon dioxide gas. This gives a white light very suitable for operating purposes. The glass tubes have sometimes been filled with nitrogen gas instead of carbon dioxide. This gives a rose-yellow light, which, whilst being very restful, has the disadvantage of failing to show the illuminated objects in their true colours. This is, of course, a disadvantage surgically, so carbon dioxide is the gas to be recommended. If the tubes are well arranged, preferably above a false glass ceiling, they give no glare or shadows, but a good, uniformly distributed light. They are very durable, lasting 20 years or more. The gradual hardening of the glass tubes, which takes place as they get older, is counteracted by an automatic valve which periodically admits a very small fresh charge of gas to the tubes from a small metal container attached. The system requires no maintenance, ordinary switches are used, and the initial outlay is not excessive, so that it is to be recommended to-day. The light, being evenly distributed, powerful and casting no shadows, has been used satisfactorily to serve the purposes of general and local lighting combined, but this does not function unless a great many closely packed tubes are employed. The tubes can be connected to a secondary current with the provision of an automatic switch-over to give emergency lighting in the event of the primary current failing. The tubes should preferably be wired up on a number of small circuits, rather than on one large one, so that, if failure takes place in one part, the major part remains unaffected.

Arc lamps arranged in the roof space above a theatre and shining through a glass laylight form an efficient method of lighting an operating room. If a pitched roof is employed, the lamps may be suspended from the trusses, thus making special fixing brackets unnecessary. These lamps run off non-flicker direct current, the most suitable types having adjacent carbons, giving a maximum light radiation along a vertical axis. The carbons should be impregnated with certain chemical compounds in order to obtain satisfactory orthochromatic conditions. The light obtained is diffused and bright enough to make local illumination redundant in some cases.

Local illumination is for the lighting up of the operating field with the operating table as the centre of interest. Many systems have been tried out with varying degrees of success, but an invention which has superseded all former methods in the favour of the vast majority of surgeons the world over was that of the Scialytic lamp made by Prof. L. Verain in 1925. Ideas concerning the position and fixing of operating lamps seem to have altered greatly during the last 20 years. These views have, no doubt, altered as the superiority of artificial lighting over natural for purposes of local illumination has been realised. For instance, in 1909 an eminent surgeon-author wrote : " No light should be fixed directly over the operating table." This was in order to prevent dust falling from the lamp on to the table. The same view was still held in U.S.A. in 1918, but the risk of falling dust is considered to be of secondary importance to first-class illumination by most surgeons to-day. Doubtless the change of opinion is due in a large degree to the cleaner and more aseptic conditions provided by the design of the modern operating lamp, which can be cleaned so easily, frequently and thoroughly.

Although most of the earlier methods of local lighting have, as previously stated, been outshone by the Scialytic lamp, several of them were clever and fairly satisfactory in many respects. The surgeon who in 1909 decried the fixing of lamps directly over the table advocated two groups of incandescent lamps with large reflectors placed on each side of the table, the lights to be capable of being raised and lowered, and fixable at any angle. To minimise the possibility of total failure, the lights were each to be provided with a separate fuse.

In America to-day, the opinion that artificial light *only* is required for local illumination is increasing rapidly : in fact, far more rapidly than in any other part of the world. Although, as elsewhere, the Scialytic lamp is the favourite, another method is still being extensively used, and is even being installed in some new operating theatres. This system consists of a series of 200 watt lamps behind a glass ceiling, with separate switches for each row of lamps and also a master switch. Although this method is quite effective, it is far behind the Scialytic lamp in freedom from shadow and ability to penetrate deep cavities.

In the U.S.A. the intensity and colour of the light seem to be more controversial than in other places. Those who consider the glass ceiling method to be superior to other forms believe that a large area of light sources, providing about 500 foot-candles on the operating table, is more generally desirable than a single large lamp. The lights are, of course, diffused by the glass ceiling to avoid glare and shadows in the surgical area or field of vision.

Another method which was used in America prior to the invention of the Scialytic lamp was that of having a high-powered lamp outside the theatre (usually in a small cabinet built adjacent to the theatre and separated from it by a fixed clear glass window), the light from which was reflected on to the table by several mirrors grouped around it. These reflecting mirrors were successful in themselves and were, of course, economical, as they split one light source up into a number without the increased cost which would have been occasioned by providing a similar number of independent light

sources. There was, however, one considerable drawback to this system. This trouble was caused by the vibration of the building (especially if situated in a city), which rapidly changed the adjustment of the mirrors, causing a flickering effect which was very trying for the surgeon's eyes and nerves. For operating purposes a perfectly steady light is essential.

This method of lighting has been modified and tried again, this time on the Continent, with greater success than before. A German, Krönig-Siedentopf, saw the possibilities offered by this system and worked on it; eventually he patented his improved version, which has been successfully installed at the Women's Clinic at Berne University. An arc lamp forms the basis of Krönig-Siedentopf's system. This is, of course, outside the operating room, and is fitted with a searchlight lens, condenser and an iris diaphragm. At first he used only one reflecting mirror, on a stand inside the theatre, but this had the drawback of forming deep shadows if the beam was interrupted by an opaque material. This was remedied by breaking up the beam by distributing mirrors, and reflecting the individual beams from secondary mirrors at suitable points in the room, concentrating the light on to the table from different angles. In the case of the Women's Clinic at Berne University, the mirrors are placed behind a closed glass screen fitted across the angles between the walls and the ceiling and running round the entire theatre. The reflectors are mounted in special holders, which reduce the trouble of flickering due to vibration to a minimum. In this system, also, the inventor has overcome a difficulty often experienced with arc lamps—the gradual consumption of the carbons, which need periodical adjustment and renewal. By using a special hard type of carbon, the frequency of renewal has been minimised, and in some cases an automatic adjusting apparatus, similar to that in a cinematograph projector, has been employed.

The more expensive method of using a group of light sources instead of mirrors has been persevered with extensively. Generally, electric lamps with parabolic mirrors have been employed. These satisfy asepsis, there is no marked heating effect, and if a group of about five lamps is used there are no deep shadows. Other points in favour of this system are the absence of deep contrasts round the edges of the illuminated operating field and the reliability and uniformity of the light. The installation is easily carried out, and the lamps are always ready for use. They are best fixed between 10 and 13 ft. high, and consist of a 100 watt gas-filled bulb of opal glass, fitted in a highly polished parabolic metal reflector, with plain protecting glass in front. No light comes to the table direct from the bulb, but only by reflection from the parabolic mirror. This is arranged by fitting the lamp with a small brass reflector, with a white lacquer finish, in front of the bulb, to throw the light on to the main reflector. The lamps are usually provided with a ball and socket joint fixing to facilitate adjustment of the beam.

Before dealing with the Scialytic lamp, which represents the climax in the lighting of operating theatres, there are several other types to comment upon, and several general observations to make.

Gas lighting, although used in the early days, must now be avoided if possible, even as a method of emergency lighting. It should be used as a last resource only, and even then a special ventilating system is necessary. Gas lighting in operating theatres is dangerous in three ways: firstly, owing to the formation of carbon particles and soot from impurities contained in the gas; secondly, owing to the great possibility of an explosion if ether or acetylene anæsthetics, or alcoholic antiseptics, are exposed to a naked flame; and thirdly, if the air in the theatre contains chloroform vapour, gas lamps form the very poisonous "phosgene" gas (carbonyl chloride and hydrochloric acid fumes and chlorine), which was one of the poison gases employed during the Great War.

Another type of lamp used extensively in previous years, and still favoured by some surgeons, is the *forehead lamp*. This is usually a spot light of low voltage, which is attached to a spring or elastic band which passes round the surgeon's head, the lamp being on his forehead. It is supplied with a small shade on the underside to prevent the light shining directly into the eyes of the wearer. The position of the lamp is so arranged that providing the wearer's eyes are looking straight ahead (which would, of course, be usual when performing a surgical operation), the light falls directly upon the object being scrutinised. There are two disadvantages to this type of lamp. The first is the discomfort to the surgeon if worn for long periods, owing to the essential reasonable tightness of the head band, and the heat from the lamp. The second is the necessity for a lead to supply the electric current, which is liable to cause the persons in the theatre to trip up. The electric wire is usually supplied with a rheostat at the plug point, to vary the strength of the beam to suit individual wearer's tastes.

The *Scialytic lamp* combines all the advantages of other systems, and at the same time has no great disadvantage. Below is a condensed extract from a paper by Professor E. Heller, of Leipzig, and Dr. L. Schneider, of Berlin, entitled: "Die theoretischen und praktischen Grundlagen der Beleuchtung Operationssälen."

> "Adequate and shadowless illumination of the operating site over an area of three to six square feet is required. An intensity of illumination of 500 'lux on white' gives maximum visibility. The dull tone of the operating field only reflects 10 per cent. of the light, so that it is necessary for the site to be illuminated in an inverse proportion to its power of reflection, i.e., at least 5,000 'lux on white.' 5,000 lux would be sufficient ordinarily, but in the case of difficult jobs, with the presence of many assistants, a still

brighter light may be necessary to save the surgeon irritation."

These requirements are given full consideration in the construction of the Scialytic lamp, with an illuminating power of 10,000 lux on white. The manufacturers claim that :—

"The most delicate anatomical details can be viewed with ease ; every condition and movement can be studied accurately and quickly ; all pathological changes can be followed, and a perfect stereoscopic view of the relative position of every part is obtainable."

An adequate shadowless light can be obtained by placing the operating field in the focal plane of a cone of light having a large apical angle, which is exactly what the Scialytic lamp does. The secret of its unrivalled efficiency lies in the use of a hard, ground and polished dioptric lens fitted in the centre of a metal cupola, around the rim of which are fitted a number of silverised reflectors. An electric lamp is inserted at the top of the cupola, fitted so as to be easily accessible and easily changeable by means of a quick release lamp holder provided with an adjustment for focussing purposes. A special projector-type bunch filament lamp is normally supplied, but any standard bulb can be used.

The dioptric lens gathers practically all the rays emitted by the lamp, and projects them on to the circumferential mirrors, whence they are reflected in the form of an inverted conical beam concentrated on to the operating field. All shadows are eliminated, and the light penetrates into the deepest cavities with a complete absence of glare.

Another important feature of this type of lamp is the nearly complete elimination of heat radiation ; but, further to ensure this (especially in tropical countries), a special heat-absorbing glass cylinder is fitted within the lens. Owing to the tint of this glass, a daylight effect is produced, whereby natural colour values are retained.

The Scialytic lamp is provided with a self-contained and entirely independent system of emergency lighting. Three small auxiliary lamps are fitted around the main bulb, and where an alternative source of current is available the secondary lamps are wired up to the secondary circuit.

The change-over to the emergency system can be made instantaneous and automatic. Should one source of current only be available, the emergency lamps are arranged to provide light in the event of the main bulb burning out. The auxiliary lamps are fitted in such positions in relation to the main lamp as not to diminish the shadowless effect of the latter.

Several different types of suspension are available, according to the requirements and conditions of the theatre. There are either rigid or adjustable types, the latter giving ample vertical movement, and a tilt to 80 deg. from the horizontal. If the ceiling is very low, a counterweight may be necessary, but as this does not satisfy asepsis unless arranged above the ceiling, or in a hollow wall (which may be very difficult constructionally), a telescopic tube suspension is more desirable. In fact, this type of suspension is better in any case than an ordinary wire rope suspension, as it is so essential that the equipment shall not scatter or collect dust on adjustment.

The Scialytic lamp had an early forerunner in which a *crown of lamps* was employed, the bulbs, ranging from three to fifteen in number, being arranged around the inside of a metal reflector, the bottom of which was closed with plain glass. This lamp, although clever theoretically, was not very efficient in practice. The greatest disadvantage was the disturbing heating effect, whereas a low temperature rise at the table is essential. Other disadvantages were the fact that a small part only of the beam entered the surgical cavity, and the presence of a disturbing dazzling effect. Owing to these disadvantages, this most promising type of operating lamp soon disappeared from general use.

There is another type of lamp which was invented independently from the Scialytic by Karl Zeiss. This works on a very similar principle, and differs only in detail. One important difference is the provision of a double filament bulb emergency lighting system, which can be worked by a 12 volt accumulator, or an alternative source of current, as required. This is known as the *Pantaphos* lamp, but, owing to their similarity, this type and the Scialytic lamp are usually grouped under a single heading using the latter's trade name as a common noun to describe them both.

Whichever type of local lighting is installed, an emergency lighting arrangement is imperative. If no alternative main electric supply is available, an auxiliary light may be obtained either from storage batteries, which can be charged from the direct current supply mains (or indirectly from alternating current mains through a converter or rectifier, which changes the alternating current into direct current), or from a specially installed independent electric generator. The former method is the less expensive, whether the supply be direct current or alternating. If possible, an emergency system worked by an automatic change-over switch is desirable, but, if this is not provided, the hand switch controlling the secondary circuit should be luminous, so that those working in the theatre at the time of a failure of the primary circuit would be able to reach the switch immediately, without any groping and consequent waste of precious time.

Regarding the suspension of operating lamps, two other types have been used extensively, the former in America mostly, and the latter on the Continent. The first is the *crane* type, where the lamp is attached to a cable passing over a small crane jib which is capable of

being luffed, swivelled, raised and lowered similarly to a commercial crane. The jib may be fixed either to the wall of the room, or to a standard built into the floor. The standard type is apt to become a nuisance to those working in the theatre, so that the wall type fixing is to be preferred. This method of suspension is not very good from the point of view of asepsis and requires very frequent cleaning. This point also applies to the other type of suspension, but in a rather greater degree. This is the *gantry* type, in which the lamp is suspended by a wire attached to a small trolley, which runs along an overhead gantry passing across the theatre, above the table. The lamp can be raised or lowered by a winding apparatus in the trolley, which winds the cable round a spindle, or unwinds it, as the case may be. Both vertical and lateral movement are controlled electrically by means of switches. This system is very useful in the case of a theatre containing two tables, when the one lamp will suffice for both tables, but, on the whole, is not to be recommended on account of its tendency to endanger asepsis.

Summary

There is no doubt that the Scialytic type of lamp is 100 per cent. better than any other system ; in fact, it is probably the most advanced and perfect fitting of any kind in an operating theatre. Surgeons, nurses and architects the world over realise its superiority, and its installation is becoming universal. In the light of such wholehearted favour, it would be ridiculous to recommend any type of local lighting system other than the Scialytic lamp.

Although some systems of general lighting have been successful without the addition of local illumination, the best of these cannot compare favourably with the Scialytic lamp for this purpose. Therefore, whatever the system of general lighting employed, a Scialytic lamp should be installed in every possible case. The choice of a type of general lighting that combines well with it appears to lie between the Moore system and the suspension globes, giving semi-indirect light. The former has very few drawbacks, apart from the false glass ceiling, which is necessary to house the tubes if asepsis is to be rigidly maintained. It has, on the other hand, many points in its favour, as already enumerated. As it is assumed that local lighting is being used, the Geissler tubes need not be set very close together, a spacing of about 1 ft. 3 in. giving satisfactory results. There is little doubt that if finance and circumstances permit, the combination of Scialytic and Moore lighting is ideal. The Scialytic and suspension globe combination is a good alternative, but does not give quite the same air of serenity obtained with the former combination, the light from a number of suspension globes not being nearly as evenly distributed as that from the Moore system. It is remarkable that the birth of the Scialytic lamp seems to have brought about the re-incarnation of the Moore system, but this is so, and surgeons and architects alike are gradually realising the superiority of a combination of the two. With an increase in popularity, there will be a gradual decrease in cost, and the lighting of operating theatres in the future may well be upon this basis.

HEATING AND VENTILATING

There is no strict line of demarcation between heating and ventilating, as in some cases one installation serves both purposes, but since in the majority of cases two separate systems are employed they will be dealt with separately here to avoid confusion.

Heating

Heating is particularly important in operating theatres, for three reasons. Firstly, the patient often wears very little clothing, the part being operated upon being, of course, entirely uncovered. Secondly, most " operatees " are seriously ill when in the theatre, and, as everybody knows, a sick person requires ample warmth. Thirdly, in many cases the patient's heart is affected by the anæsthetic, and warmth is required to counteract this condition. These three reasons are in addition to the usual need for heating, according to the climate, to ensure ordinary comfort for the occupants of the theatre.

An American authority suggests that it is necessary to produce a temperature of 85 deg. F. inside a minor theatre when the outside temperature is zero, and 85 deg. F. inside when the external temperature is 10 deg. below zero in a major theatre. Since temperatures in the region of zero are very rare in this country, it would seem that a thermostatically controlled continuous heating apparatus giving a temperature of 77-86 deg. F. when the external temperature is 10 degrees of frost would be ample for temperate climates. The following points are important :—

A. Asepsis must be easy to carry out.
B. There must be no disturbing air currents or dust eddies.
C. Rapid heating must be obtainable whenever required.

Radiators.—In cases where radiators are used, they should be of the single column type with smooth surfaces, of the plate type or in the form of horizontal pipes of nickel plated copper running round the room. If the latter type is employed, it should be ensured that the pipes are neither too close together nor too close to the wall and floor, in order to facilitate cleaning. They should be fixed at least 4 in. from the wall, and 7 in. from the floor.

Hot water heating systems are easily regulated, and can be worked from the main boiler plant of the hospital. The heating surfaces themselves are not at an excessive temperature, therefore any dust which might possibly be on the pipes or radiators is not

scorched. No rapid up-currents of air are formed to increase the amount of air-borne dust.

There are three objections to heating by radiators and pipes: The fittings occupy space which might be advantageously employed in other ways; the total heating surface required is great if hot water is employed, the area in cases where steam is employed being, however, somewhat smaller; it may not be desirable in all cases to work from the main boilers, as, in the summer, the wards and other parts of the hospital would not need heating, therefore making the system uneconomical. In some cases this might be overcome by heating the theatre from a small independent domestic type of boiler, either as a full-time or an alternative measure.

UNDER FLOOR HEATING.—Large theatres only, as a rule, have this system. It may be connected with a panel system along the walls where the construction of the theatre allows. This system consists of runs of piping heated either by low pressure steam or hot water. The pipes are usually laid in a false ceiling, and/or in covered pipe-chases in the walls. The heat is radiated backwards to the walls and floors, is conducted to the surface by the materials, and then transmitted to the room by radiation and convection. With this arrangement the regulation is accurate and simple, the theatre is entirely free from all heating apparatus, and no marked air-currents are made. The temperature of the floor surface should not be more than 68 deg. F. as the feet quickly become overheated.

PANEL SYSTEM.—This is similar to the last system, and can also be heated by either hot water or low pressure steam. In this case radiators are placed in recesses in the walls, the latter being covered with plated metal panels fitted flush with the main wall surfaces. Although plated panels are usually employed, a dull black enamel surface gives better radiation, and in any case the inner surface of the panel should be black, in order to increase its heat absorbency.

JACKET SYSTEM.—The jacket system conforms with all hygienic needs. The walls, floors, ceilings and windows are all surrounded by voids or jackets, through which warm air is caused to circulate. The hot air flows from radiators situated, say, beneath the floor, heated by water or steam. The heating air does not meet or mix with the ventilating air inside the theatre. This system is employed with success at the Maternity Hospital of the Canton of Berne, Switzerland, where it keeps the temperature in the theatre at 68-78 deg. F. In seasons other than the summer, the heating is supplemented by plate radiators beneath the large northern bay window. In this particular installation, the air is heated by steam radiators, and the plate radiators are worked from the hot-water heating system, but there is no apparent virtue in this arrangement.

In theory this jacket system is ideal, but in practice it has a number of disadvantages. In the first place, the provision of a jacket all round the theatre is difficult to construct, and therefore very expensive. Secondly, it is difficult to heat air to a sufficient temperature to transfer its heat to a room via a skin of various kinds of building materials and finishings. Thirdly, owing to the many causes of heat loss, the system has to be working for a long period before the atmosphere in the room becomes appreciably warmer, although, once the room is warm, its warmth is maintained without augmentation. Fourthly, if the radiators are located in the floor, it is probable that this would become uncomfortably hot, giving, in effect, an under floor system, the jackets surrounding the walls, ceiling and windows contributing only a very small percentage to the temperature of the room and becoming, therefore, redundant.

ELECTRIC RADIATORS.—These may be fixed under the floor, or, preferably, in wall panels. This system is exceptionally clean, there are no pipes, but only wires in the walls, and the radiators are operated by simple switches. They attain their full heat in a few minutes and the heat can easily be regulated by dividing the radiators up into groups, each group being controlled by a separate switch, so that should the room become too hot, one or more groups may be temporarily put out of action as desired. The cost of the radiators, switches and wiring is low compared with the radiators, valves and pipes in an ordinary steam or hot water system, and no external generating plant in the hospital is necessary.

The only drawbacks are that in the event of a current failure the apparatus becomes useless, unless an auxiliary supply of sufficient power to run the system is available. In this case, an automatic change-over, similar to that employed for the lighting, is desirable. Also a second drawback is the remarkably high price of current in some localities. This, of course, is not to be taken into consideration if the hospital has its own electric supply plant, but these cases are somewhat rare. It would seem that it might be worth installing a small generating plant solely to work the heating radiators in the theatre, if the cost of the local company's power is excessive.

PLENUM SYSTEM.—This system combines the heating and ventilating of the theatre into one installation. It is described more fully in the section on VENTILATING. The heating of the air, which is what most interests us at the moment, is accomplished by passing it over a battery of heating elements. These may be electric radiators, steam or hot water radiators, according to the requirements, available finance and existing heating facilities. Electric heaters are readily regulated by means of switches in the theatre, attain their maximum temperature rapidly, and get cool quickly when switched off. They are probably better all round than steam or water radiators, but are, of course, much more expensive to run.

Ventilating

Many operating theatres are ventilated simply by opening the windows occasionally. If this method is adopted, it is desirable to design the theatre large enough to be able to dispense with renewal of its air during the course of an operation. Therefore, the height of the room should be from 15-20 ft., if possible, in order to keep the warm air above the heads of the staff.

Although this system has often been employed satisfactorily, the ideal theatre is artificially ventilated. Since air is to be artificially introduced into the theatre, it would seem sensible to heat it first, thus doing away with a separate heating system. This is usually done as is described in the section on heating. But, from the ventilating viewpoint, to maintain asepsis it is necessary to filter the air before it enters the theatre in order to exclude dust and germs.

One of the simplest methods is to provide a vent near the floor, connecting with the outside air, and a similar vent near the ceiling. Each vent is fitted with an electric fan provided with a remote control switch. Thus, the air may be drawn in through the lower vent, and on becoming warm and consequently rising, out via the upper vent. The speed with which the air is changed can be regulated by altering the speeds of the fans, and a rheostat should be provided for this purpose. Or, if desired, the extract fan in the upper vent only may be used, according to meteorological conditions, etc. If this method is employed the air must be filtered. This is usually done by installing an oil filter in the lower vent. This is a patented apparatus, by means of which the air is passed through films of oil, to which most of the dust contained in the air adheres.

Plenum System.—This is the system used in most theatres, cinemas, and other buildings where a large number of windows is undesirable. It is necessary to have a room specially to contain the apparatus. This is often arranged above the lobby in the case of an operating theatre. The air is drawn in through a grille in the external wall of the plenum room, by means of a large fan enclosed in a metal casing. The air passes through an artificially produced mist of water vapour, which washes it and increases its humidity. A noted German authority, Herr Conrad Brunner, considers that the elimination of living organisms from air is best achieved by increasing the humidity of the atmosphere. Many persons even consider that this method alone is quite sufficient, without employing any kind of filters. Nevertheless, in the case of an operating theatre, filters are usually introduced, just to make doubly sure, especially in localities where there is much smoke and dust in the air.

After passing through the water vapour, the air is often heated as described under HEATING. It is then filtered by passing it through coke, sand, cloth or cotton wool, or a combination of two or more of these. If the air is heated, it is usually injected into the theatre via a grille high up in one of the walls, near the ceiling. Then, as the air cools, it descends to the floor, whence it is allowed to escape through another grille into the open air. It is not, as a rule, necessary to extract the air by means of a fan, but one should be installed, to be employed if necessary.

If the air is not heated before entering the theatre, it is best introduced near the floor, and on getting warm extracted near the ceiling. A suitable system of baffling may be necessary at the intake vents to prevent draughts. The first method is, of course, the better.

In a few installations the sterilisation of the air has been done by means of heat. The air is heated up to a temperature of 338 deg. F., which is sufficient to exterminate all living organisms. The air is then cooled and subsequently ozonised. The drawback to this system is the cost, both of installation and running.

Another method of increasing humidity is by spraying the theatre with steam as required. This is done more frequently in the case of a septic theatre. The steam spraying is generally done for about two hours prior to the operation, but vapour is rarely passed into a theatre during the evening, as very damp air is not good to breathe when the temperature is falling as it always does at nightfall.

Summary

The best system of heating and ventilating an operating theatre is undoubtedly by means of the plenum system. It is fairly expensive to install and operate, but should be used wherever conditions permit. There is absolutely no apparatus in the theatre, and, since the air is filtered and washed (or, in some cases, actually sterilised) there is no danger to asepsis, nothing to clean, and nothing to get in the way. As regards ventilating, this is by far the best method, although some other methods of heating are equally efficient.

The next best combination is probably the jacket heating system, combined with the intake and exhaust fan ventilating system, provided with oil filters. In this case, also, there is no apparatus in the theatre, with the several advantages gained by its absence, but the price of the jacket system is again rather high.

One of the above forms of artificial ventilation is really essential, as, although ordinary ventilation via windows may be used between operations, it is absolutely undesirable during their course. The window method is, in any case, a real danger to asepsis, and should never be used if it can be avoided.

The best of the cheaper forms of heating is probably the panel system. This obviates the necessity for having apparatus actually in the theatre, yet avoids the expense and complications of the various under-floor, jacket and pre-heated air systems. It even avoids the extra expense of plate or single column radiators, which are necessary if they are exposed. Electric panel heating is even better, but is, as usual, more expensive to run.

REQUIREMENTS IN THE PLANNING OF HOSPITALS

Schedule for an Acute General Hospital of About 200 Beds

For some long time there has been an increasing demand by both hospital authorities and architects for some sort of concise information as to the requirements of hospitals for use when instructions are given to architects. The Hospitals Committee of the Building Centre, which was formed at the beginning of the year, has undertaken the work.

It was felt that first of all a comprehensive Schedule of total possible requirements should be produced ; and that later on hospital departments should be taken one by one, and Schedules published from time to time, giving each department in more detail.

The Schedule now appearing is the result of this year's work of the Committee, and is appropriate to an Acute General Hospital of about 200 beds. Other Schedules will follow in due course.

The Schedule is designed in a form which may be filled in by any hospital authority. There is no intention that any such authority should necessarily use all the space provided, but headings are indicated which draw the attention of all those concerned to all possible requirements.

The Building Centre Hospitals Committee responsible for the preparation of the Schedule was as follows : P. W. Adams, F.R.I.B.A. ; T. A. Lodge, O.B.E., F.R.I.B.A., F.S.I. ; E. Stanley Hall, M.A., F.R.I.B.A. ; R. H. P. Orde (Hon. Sec., British Hospitals Association ; Director, Central Bureau of Hospital Information) ; Lt.-Col. W. Parkes, D.S.O., M.C., B.Com. ; A. G. E. Sanctuary (Administrator, Radcliffe Infirmary and County Hospital) ; Dr. A. R. Snowdon (Hospital and Medical Section, Building Centre) ; F. R. Yerbury, Hon.A.R.I.B.A. (Chairman) ; R. Cock, A.R.I.B.A., and E. J. R. Burrough (Joint Hon. Secretaries).

The Schedule is divided into the following main headings :—

A. *Treatment* (Medical and Surgical Services).
   1. Accommodation for In-Patients.
   2. Accommodation for Out-Patients.
   3. Special Departments ancillary to 1 and 2.

B. *Administration.*

C. *Residential* (Staff Accommodation).

D. 1. Entrances and Connecting Corridors.
   2. Services.
   3. Works on Site.

For ease of reading and convenience of reference, departments, etc., are listed alphabetically, and not in order of position or comparative importance.

A. TREATMENT

1. Accommodation for In-Patients
Allocation of Beds

Classification	In general wards M.	In general wards F.	In single wards M.	In single wards F.	In small rooms or cubicles M.	In small rooms or cubicles F.	Notes
Accident Children[1] Convalescent (*etc., see below*)							*see notes below*
Total							

Classification : Accident. Children[1]. Convalescent. Ear, nose and throat. General Medical. General Surgical. Gynæcological. Isolation and Septic. Maternity[2]. Neurological. Observation. Ophthalmic. Private Patients. Radium Treatment. Skin. Staff. Venereal Diseases. Others (indicating the categories).

Notes : (1.) State : (a.) If these beds are to be grouped as "Children," or are they to be divided and designated under the other group headings ?
(b.) The requirements for Isolation.
(c.) If such cubicles are to be made permanent or temporary so that divisions can be taken down.
(d.) If E.N.T. children are to be kept separate.
(2.) State if special provision is to be made for : "Eclampsia," "Isolation," "Labour," "Nursery," etc.

A.2. Accommodation for Out-Patients

Classification	Waiting Room	Consulting Room	Examination and/or dressing rooms	Notes
Ante-Natal Babies Cancer *(etc., see below)*				*see notes below*

Classification : Ante-Natal. Babies. Cancer. Casualties. Child-Guidance. Children. Dental. Diabetes. Diseases of Women. Ear, nose and throat. Electrical. Eye. Fractures. General Medical. General Surgical. Genito Urinary. Heart. Massage. Mental. Neurological. Obstetric. Orthopædic. Post Natal. Private Patients. Rectal. Rheumatism. Skin. Sunlight. Tuberculosis. Venereal. X-ray. Other Special Departments, e.g., Asthma, Chiropody, Hay-Fever, Orthodentics, Orthoptics, "Varix."

Notes : Indicate any separation required for female patients.

A.3. Special Departments Ancillary to 1 and 2 General Ward Accommodation

(Pay bed accommodation will be detailed in a supplement to this Schedule)

Space to be provided for :	Notes
Bath Room Clinical Room Dirty Linen *(etc., see below)*	*see notes below*

Space to be provided for : Bath Room. Clinical Room. Dirty Linen. Lavatory. Staff Lavatory. Linen. Office (Sisters' Duty Room). Patients' Clothes. Sluice Room. Space for Steriliser and Storage of Flowers. Stores. Waiting Room. Ward Kitchen. Ward Maids' Cupboard. W.C.s. Staff W.C.s.

Notes : State whether single bedded rooms and cubicles are to be grouped as Ward Units or as attached to same, and whether they are to have special ancillary accommodation apart from that of the Ward.

A.3. Accommodation Ancillary to 1 and 2 Operation Theatres

Classification	Anæsthetic Room	Anæsthetic Control Room	Number required	Nurses' Scrub-up	Nursing Staff Changing Room, W.C., etc.	Sister Theatre	Steriliser Room	Surgeons' Scrub-up	Surgeons' Bathroom and W.C.	Trolley Accommodation
1. *General* 2. *Special* Casualty E.N.T. *(etc., see below)*										

Classification : 1, *General*. 2, *Special*—Casualty. Ear, nose and throat. Gynæcology. Ophthalmic. Others (category to be indicated, e.g., Orthopædic, Pyelography, etc., etc.).

Notes : State if provision is to be made for :

(a.) Dark blinds.

(b.) Instruments : Cupboard space or room, repairs to same.

(c.) Linen and Bandage Store and provision for heating blankets.

(d.) Washing up of dirty instruments and utensils, the disposal of soiled linen, either in a separate room or otherwise.

(e.) X-Rays.

A.3. Special Departments Ancillary to 1 and 2 Medico-Electrical, Massage and Plaster

Classification.	No. of rooms	No. of plants	No. of consulting-treatment rooms	Undressing cubicles	Record Room	Reporting Room	Developing and Film Room (?)
X-ray, Deep Therapy (treatment) X-ray (diagnosis) *(etc., see below)*							

Classification : X-ray, Deep Therapy (treatment). X-ray (diagnosis). Diathermy. Other Electro-Medical Plant (*a*) Therapeutic (*b*) Diagnostic. Radiant Heat. Plaster Room. Massage and hydrotherapy, including Studa Lavage. Remedial exercise. Others (indicating the categories).

Notes : Film Stores should be outside the main building.

Due regard must be paid to effective insulation of all electrical apparatus, and to the shock-proofing of the deep therapy department especially.

Interference of short wave apparatus with local wireless sets is to be guarded against.

A.3. Special Departments Ancillary to 1 and 2 Pathological Department

Classification	Number of Rooms	Notes
Accommodation to be provided for :— Animal Department Incubator Room *(etc., see below)*		*see notes below*

Classification : Accommodation to be provided for : Animal Department. Incubator room. Media Preparation. Mortuary. Mortuary Chapel and Viewing Room. Pathologist and Assistants (e.g., Bacteriology, Bio-Chemist, Histology, Morbid anatomy, etc.). Path. Laboratory (examination and waiting accommodation for patients). Post Mortem room. Staff changing rooms, W.C. and lavatory. Steriliser room. Vaccine. Washing-up room.

Notes : Any essential height of individual rooms in this block should be noted and generally the size of each individual room.

A.3. Out-Patients Ancillary

Classification	Number of rooms	Notes
Dispensary (*etc., see below*)		*see notes below*

Classification : Dispensary (Preparation and stock room, with provision for distillation plants, and sterilisation). Dispensary Stores room. Recovery rooms. Staff accommodation. Store rooms (*a*) General (*b*) Inflammables. Waiting Hall. (Provision for Casual and Accident Cases.) (Theatre for Minor Operations.)

Notes : An indication should be given as to the approximate size of separate requirements.

B. ADMINISTRATION

1. Office Accommodation

Classification	Number of staff	Number of rooms	Notes
Accountant's Dept. Almoner* (*etc., see below*)			*see notes below*

Classification : Accountant's Dept. Almoner.* Appeals Dept. Enquiry Office.* Matron. Records.* Registration of patients.* Secretary. Steward and Stores (see B.2). Waiting room.

Notes : *State if this is to be in the Out-Patients' Dept.

B.2. Stores

State : (a.) If there is to be one general store, or separate stores for Provisions, Domestic supplies, Medical supplies, etc.
(b.) Number of Staff (if not already included under Steward's Dept.)

B.3. Kitchen and Dining Rooms

State : If all the cooking is to be done in one kitchen.
If not, please state the number.

Dining rooms for : Administrative Staff (Secretary, etc.). Male Domestic Staff. Female Domestic Staff. Nursing Staff. Resident Medical Officers.

C. RESIDENTIAL

State number for whom accommodation is required :—

1. Nursing Staff. Assistant Matron. Masseuses. Matron. Probationers. Sisters (including special departments). Staff Nurses. Others ?

State : (a.) Particulars of accommodation to be provided for the Matron.
(b.) If separate bedrooms are to be provided for other members of the Nursing Staff.
(c.) If Sisters or others are to be provided with a bedroom, bed-sitting room, or bedroom and sitting room.
(d.) If the following are to be provided : Dining rooms, etc. Lecture rooms. Recreation rooms. Visitors' rooms. Accommodation for preliminary Training School. Dining Room and Kitchen, etc. (in Home or Hospital ?). Ancillary Rooms, e.g., Bath and W.C. (proportion to be stated). Box room. Drying room. Home Sister's Office. Incinerator accommodation. Ironing rooms. Laundry rooms. Linen sorting room. Shampoo room. Sick Nurses accommodation. Tea pantries. Others.

2. Male Nurses or Orderlies.

3. Domestic Staff (Female).
State numbers for whom accommodation is required : General cleaners. House Maids. Kitchen staff. Ward Maids, etc.
State if they are to be housed in the Nurses' Home, in a separate home, or in the Hospital itself.

4. Domestic Staff (Male).
State numbers for whom accommodation is required : Engineering Staff. Gardener and Works staff. General cleaners. Laundry staff. Male Nurses (or attendants). Porter staff. Stokers, etc.
State if separate residence is to be provided for either of them.

(5.) Resident Medical Officers.
State : (a.) Number for whom accommodation is required.
(b.) If separate home is required for them.

(6.) Secretary or House Governor.
State if residence is to be provided.

D.1. ENTRANCES AND CONNECTING CORRIDORS

State : (a) The position of entrances and exits to be provided. These should not be decided without careful consideration of their special use and administrative convenience.*

(b) If circulation of patients in the Out-Patients' Department should be in one direction only, and if possible arranged so that different streams do not cross, and if there are to be any special exits as distinct from entrances, e.g., for the V.D. Department.

(c) If there should be means of screening the entrance of Accidents from the general Out-Patient Department and waiting room.

(d) If the entrance for staff of all kinds is to be separate from entrances provided for patients.

Note. * Width of corridors should be such that where there is to and fro wheeled traffic this can be conducted with a minimum of delay, and where this might be necessary there should be space in which to turn a bed on its own wheels in a corridor. Due regard must be held also to turning space for trolleys, especially near the operation theatres.

Ramps should be surfaced with non-slip materials.

D.2. SERVICES

Kitchen Accommodation

State : (a) If Main Kitchen is to be designed for cooking for the whole of the patients as well as the staff, or if the Nurses are to be cooked for separately. If so, if their kitchen is to be in the main building or in the Nurses' Home.

(b) If the Dietician is to work from the kitchen, or if he or she is to have a separate servery which is not under the control of the chef.

(c) If the proposed method of cooking and serving food is compatible with the proposed administration and staffing arrangements.

(d) If the servery is to be a part of the Kitchen Department, and if it is necessary to provide special trolley and/or tray space outside the kitchen.

(e) What arrangements it is proposed to make for lavatory accommodation, etc., for the Kitchen Staff.

Other Services.—*Bakery. Canteen for Out-Patients. Staff Dining Accommodation* (see also under "Administration"). *Stores :* (1) Dispenser stores. (2) Engineer's stores. (3) General Housekeeping Stores. (4) Kitchen stores. (5) Matron's special stores. (6) Patients' clothes (see also under "Ward Accommodation"). (7) Splint room. *Chapel. Patients' Library. Engineer's Department :* (1) Boilers. (2) Electric wiring (clocks, lights, power, signalling). (3) Heating, etc. (4) Lifts. (5) Lighting. (6) Pipe lines. (7) Telephone services. *Laundry :* State (1) If laundry is to be on site. (2) If accommodation is to be considered for the staff, and, if so, whether they are to be accommodated with the general domestic staff or separately.

D.3. WORKS ON SITE

Cold water (main and fire services). *Farm Buildings. Fences and walls. Layout* (including roads and paths). *Other machinery and plant. Sewage disposal. Walls. Water storage, etc. Workshops :* (1) Carpenter. (2) Engineer. (3) Painters, etc.

Miss Ellen Wilkinson and Mr. J. B. Priestley inspecting the Exhibition

THE "SMALL HOUSE" EXHIBITION

The Opening Ceremony

The Small House Exhibition was opened on Thursday, 13 October, at 3 p.m., by Miss Ellen Wilkinson, M.A., M.P., and Mr. J. B. Priestley, LL.D., D.Litt. Mr. H. S. Goodhart-Rendel, President, occupied the chair.

Miss ELLEN WILKINSON, M.A., M.P.: We all suffer from a cringing of the spine whenever we see a notice board across a perfectly lovely piece of country announcing that it is "ripe for development." I know rather well a piece of country road on which there is a lovely view with this awful notice board. I always want to stop the car and throw things at it, merely to express my sense of horror of what I know is going to happen.

But, after all, it *need* not happen as we expect it will. We assume nowadays, when anyone is going to build houses, that they are going to be bad houses, unless they are for very wealthy people, especially if they are being built, not by a municipality on a planned estate, but for people who can just afford that initial deposit, and then 17s. to 25s. for the rest of their lives. It need not be so, and I have enjoyed this Exhibition so much—I have been shown round by the young men who are really responsible for it—because it shows what might be.

I have long held the view that somebody ought to bring in a Bill before Parliament—I am perfectly willing to do it myself, if the Institute will back me—making it a penal offence for any speculative builder to build a house without employing an architect. I do hope that your enthusiasm for that offer is not entirely due to the prospect of architects' fees for the members of this Institute! The old villages of England are some of the loveliest things in Europe. But to-day we are engaged either in spoiling them by putting up awful houses, or in killing them by saying that no more houses must be built, and that if couples want children they must go and have them somewhere else. Both those ideas are entirely wrong.

I have had the matter explained to me by Mr. Duncan, who says that most speculative building has been done on the slice of bacon theory; the thinner the slice on which you could put the house the more houses you could put to the acre. The village, on the other hand, was at least built to be a community. We are losing all that community sense, and we are losing it at vast expense. I do not know how much longer the ordinary taxpayer of this country will agree to be taxed quite a respectable amount each year for the building of highly expensive arterial roads, which are intended to take us out of London as quickly as possible—and London is getting into such a mess that we do want to get out of it as quickly as possible—and then to find that speculative builders are allowed by build ordinary houses on each side of them. The next item on the agenda is that the mothers of the children in those houses write to us

Members of Parliament and demand that their children shall be protected from the death-trap of the fast-moving vehicles for which the roads were intended.

It is a complete mess, and it is largely a mess because of the firm conviction on the part of most English people that everyone ought to be allowed to do more or less what he likes ; and so we get an awful semi-detached philosophy. We are getting semi-detached minds ; we do not want to be part of a beautiful whole. Indeed, the world in which we are living we now know can so degenerate that we may be part of a very ugly whole. Rather than losing the individual in a vast State we ought to try to get back that sense of the group, the community, which had some kind of centre and some kind of meaning.

After all, this need not be really expensive. Some of the best planning is being done not so much by the large municipalities—some of the large municipalities are responsible for perfect horrors—but by some of the smaller, many of whom have done rather fine things. I sit in Parliament for one of the most distressed areas in this country, and one of the smallest places in my constituency, where everyone was until recently out of work—even now they are desperately poor—which has put its brains into this work and, employing a good architect, has one of the prettiest housing estates in the country. When it is shown to visitors, they look at it and say, " For a distressed area, do not you think it is rather extravagant ? " The only extravagance has been in getting a good brain to do the planning.

When you go round this exhibition, I think you will have a feeling of envy, as I have had. When we think that the two million houses which have gone up since the War have all been put up in this higgledy-piggledy fashion we must be appalled at the opportunity which has been lost in the last twenty years. We could have made a very delightful England with these two million houses ; whereas at present our only general feeling is that if ever we are going to be bombed, a hope that the enemy will bomb the right things.

In declaring this exhibition not open, but half-open or semi-detachedly open—for Mr. Priestley has to do the other part of the job—I feel that if any of you here can help in this campaign for trying to make England house-conscious, beauty conscious, to understand that things made by hands need not necessarily be ugly—though if they are made purely for profit they generally are—we shall make a better show out of this England of ours than we have managed to do so far.

Mr. J. B. PRIESTLEY, LL.D., D.Litt. : Modern England is a country in which nature, in her infinite width and wisdom (including the speculative builder) has taken its course. I am not for imprisoning or shooting the speculative builder. Unlike Miss Wilkinson, and not being a woman, I rather want people to do what they like. Being a rather fat, lazy and good-natured man, I am all for people doing what they want to do. If we are going to change them, we must make it a process of education and not of legal penalties. I would rather be a free man living in a slum than be compelled at the pistol mouth to live in a garden city ! On the other hand, we have no monopoly of reason in this room. We have been converted to a point of view, and, if we are real democrats, we believe that our fellow-citizens, who share the same instincts, can be converted to that point of view too.

In that process of education, in trying to lead England out of this morass of ugliness and vulgarity into which it has fallen, I do not think that any body of people has done more than the young men—I emphasise the young men, because I know that they have been working on this Exhibition—of the R.I.B.A. ; and on behalf of that England which is trying to be rescued I do thank them from the bottom of my heart. It gives one not only a sense of pleasure, but a feeling of enormous hope to know that young men, without wanting to use their own names and further their own careers, are so busy doing this magnificent work for their country.

The exhibition—even the very miserable little part of it that Miss Wilkinson has already opened, to say nothing of the magnificent part of it that I am now about to open—is most dramatic. I believe that it is going on tour, as we say in the theatrical profession, for about a couple of years, and I know that people in the provinces will be extremely excited by it, and I believe that it will make a great difference in public opinion.

It seems to me that the most important thing that we have to combat is the passion of the suburban English to live in bungalows. They will not live in squares and rows and crescents. I have spent most of my life in squares and rows and crescents, and look what they have done to me ! I hate bungalows. On the other hand, I was glad to see in the exhibition that we are getting away from a tendency which was prevalent a few years ago, when modern architects who had had little trips to France and Italy and Sweden and America brought back a kind of architecture which was unsuited to our climate. The kind of house that they showed you in their photographs always had the sun blazing down on it, with a few people reclining with a minimum of clothes on. I do not know whether you have seen any of those houses after three months' steady rain in the North of England. They look like something from the old Earl's Court Exhibition !

We are now getting away from that, and we realise, like our fine old architects, that a house has to grow out of the soil, as it were ; it has to be part of its background, and it has to conform with the temperament of the people who are going to live in it. Now, we English like to be cosy. We are cosy people. The Latins are not ; they like to spend most of their lives out of doors. The Americans on the whole are very uncosy people. But we do like to be cosy, and you cannot be cosy in one of these functional rooms which are nearly all window. I think that we are getting away from that now, and we are effecting a compromise between that

rather cosy, narrow, domestic spirit of ours and this new austerity. I am quite sure that our young men—and I have employed one or two of them to do jobs for me, so that I know how good they are—are going to solve that problem.

I believe that if we can change our conception of architecture and of the way people ought to live, we can do something towards decentralising our life in this country. One of the greatest mistakes made by our various Governments since the War was to allow London to become larger and larger, not only because London is to-day the most vulnerable city in the world—though that is bad enough—but because it has had a kind of bad spiritual influence, as of a great octopus with a stranglehold on the rest of England. I believe that instead of this bungaloid growth, with its dependence for its intellectual life on a few large cities, if we could have new communities springing up, and if these communities could represent a real cross-section of our people, we should all have a fuller, healthier and happier life. I know that the R.I.B.A. are working towards that end, just as they are working towards the end of making this country as beautiful now as it was once, and as an ordinary citizen I congratulate them upon the work that they are doing. I now open the most important part of the exhibition.

A vote of thanks to Miss Wilkinson and Mr. Priestley was proposed by Mr. W. H. Ansell [*F.*], *and carried with acclamation.*

THE "SMALL HOUSE" EXHIBITION

By

MISS M. HOWLETT

*Thursday, 13 October 1938, at 10.20 p.m., Fourth News**

If you're looking for a "small house" or you're living in one now, or perhaps just hoping to have one of your own one day, you'll find a lot to interest you in this exhibition. It's simply a collection of photographs and diagrams, but it shows the points and possibilities of an average house—what it might be, and what unfortunately it often is.

The organising committee of the exhibition says that "Improvement in house design depends first on what is demanded or expected by the house user," and the exhibition shows what people might very reasonably be taught to expect.

Two million houses have been built in the past ten years—built to meet such a rapid demand that layout and design and materials have suffered in the race to sell great numbers of houses at competitive prices in the shortest possible time. The results in so many cases have been vast streets of houses of exactly the same design built on vast stretches of treeless land, and the people who struggled and saved for years to have a home of their own find themselves in places little better than the cheerless city terraces from which they longed to escape.

And so, show them what they might have is the keynote of the exhibition.

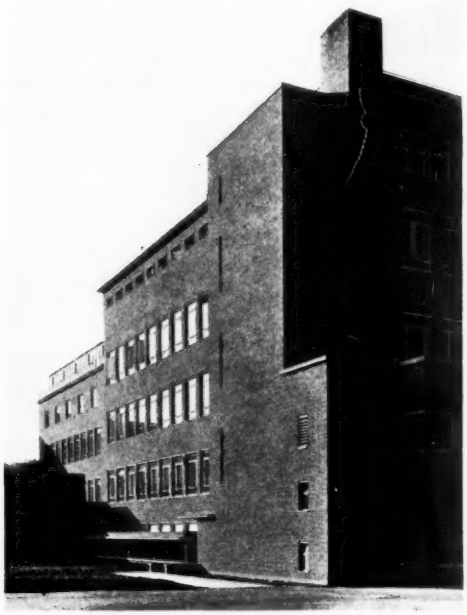
It is impossible not to notice immediately that so many of the photographs are of houses and estates in foreign countries—evidence presumably that England has not advanced so rapidly in home building as other countries. The estate layouts show means of avoiding main thoroughfares which are noisy and dangerous by cul-de-sacs and small linking service roads at the sides of which trees and grass can grow freely. A photograph of a Swiss estate shows how 72 houses have been built on six acres of land—that is, twelve houses to the acre—and yet each house appears to have its own garden and there is still a whole two-acre stretch of lawn, garden and trees in the centre which can be reached from any one of the 72 houses without touching a main roadway.

Then there are designs for houses that get morning sun in the bedrooms and bathroom, afternoon sun in the living rooms, and no sun at all in the larder, and showing how much nicer it is to have large panes of glass with no glazing bars and how costs can be cut by a simplicity of design that is not only attractive but gives a sense of freedom as well. Simplicity in design is a feature, too, of cupboards, doors, windows and fittings of every description, and they are of materials which take a minimum time to clean.

I asked how much it would cost to instal a separate shower bath in a house, and was amazed to find it could be done for about four or five pounds. I figured rapidly that the cost of a shower was so much less than the cost of a plunge bath that the shower installation might pay for itself fairly soon. It surprised me too to learn that in flats in Sweden—equal to our council flats—97½ per cent. of them are fitted with stainless steel sinks. I asked how could it be done at the price, and the answer to that question was much the same as to many others: the people just expect those fittings, and when enough people expect such things it becomes cheaper and cheaper to mass-produce them.

And so it seems that if we only want things enough we can have them: at least, this little exhibition seems to prove that good design, materials and labour-saving fittings are not luxuries to be afforded only by the well-to-do.

* This is the script of a broadcast talk on the "Small House" Exhibition, given by a woman member of the B.B.C. staff on the day that the Exhibition was opened. The script, which has been kindly supplied by the B.B.C., is reproduced exactly as received.



THE SCHOOL OF ANATOMY THE UNIVERSITY OF CAMBRIDGE

Architects: Stanley Hall & Easton and Robertson [*FF.*]

From the south-east, showing the covered way linking the students' entrances

Though an uncommon building type, the new School of Anatomy at Cambridge performs its very specialised functions so well that it is likely to serve as a model in medical schools for some time to come.

The principal units are a large dissecting room to which are attached specimen and body stores, embalming room and refrigeration plant; an X-ray department; a department of embryology and histology; a department of comparative anatomy; an animal department; a lecture theatre, museum and library; cloaks, lavatories, stores, etc. The dissecting department is placed on the lower ground floor, the dissecting room being an extension from the main building and lit with north-light roof glazing. The lecture theatre occupies part of the ground and lower ground floors. The X-ray department is not yet equipped and the partitions have not been built. The museum is on the ground floor together with a group of research rooms; embryology and histology are on the first floor, comparative anatomy on the second, and the animal department on the third. This last is planned with an open internal courtyard at roof level, on to which the windows of the principal rooms open.

The students' entrance is in the re-entrant angle on the south side and has a covered way leading direct to the lecture theatre and to a secondary stair giving access to the upper tiers of seating. The main entrance and staircase is on the north side.

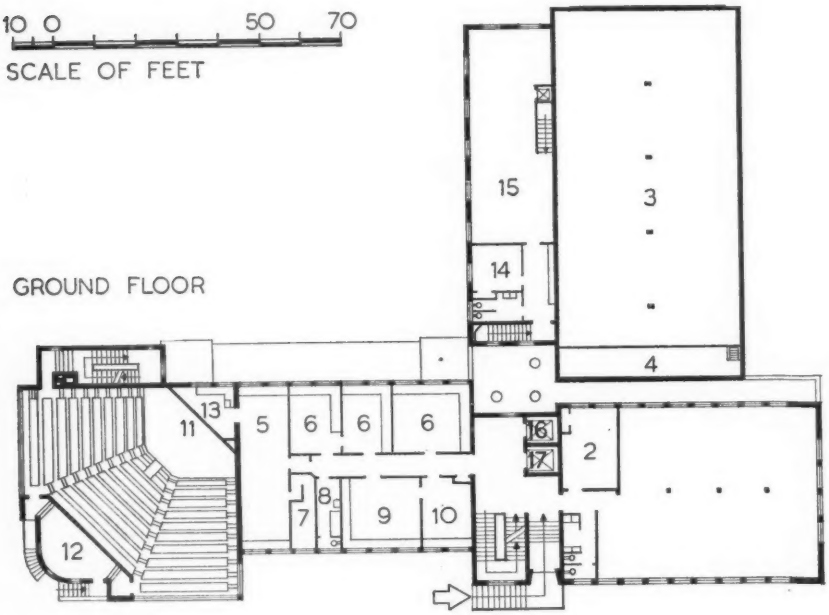
The structure is steel framed and infilled with brickwork. This is largely in cavity construction, the outer skin being 9 inches and the inner 4½ inches. A 6½ inch cavity accommodates the numerous service pipes, conduit and heating risers. Covers in the walls provide access to the services. Structural floors are hollow tile. Heating throughout is by means of panels of low-temperature piping in the ceilings.

Flooring materials are as follows:—In the departments of comparative anatomy, embryology and histology and the research rooms, rubber terrazzo; in the library and museum and on the landings, cork; in the dissecting room, terrazzo in squares; in the animal department, quarry tiles. The joinery of the lecture theatre is in Serayeh.

The equipment is very thoroughly worked out. In the principal departments each student is provided with a fitting containing a sink and points for gas, water and light. In the comparative anatomy department the services to these are accommodated horizontally in the backs of the rows of fittings, descending to the floor at the end of each row. The lecturer's equipment in the theatre includes three groups of three vertically sliding blackboards, arrangement and screens for film and lantern projectors and for an epidiascope. The desk is in three units, of which the central one revolves for displaying a specimen; all controls are at a single switchboard.

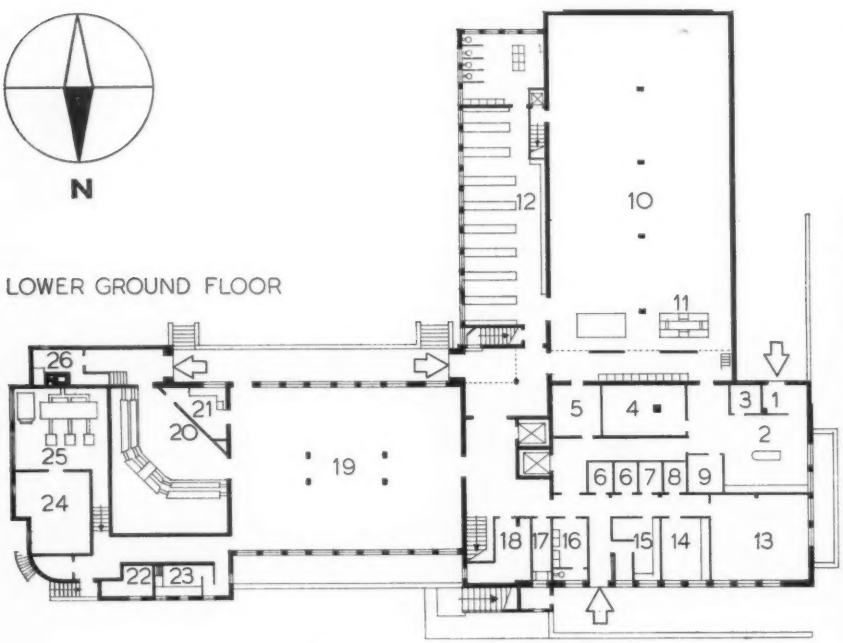
The building is on the site of the old School of Anatomy near Downing College and is approached from Tennis Court Lane.

GROUND FLOOR



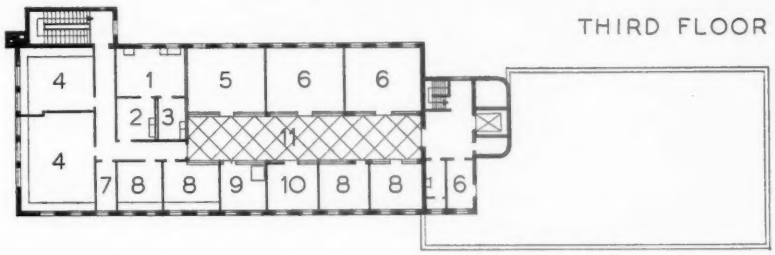
1. Library.
2. Staff and reading room.
3. Upper part dissecting room.
4. Students' gallery.
5. Optical room.
6. Research rooms.
7. Dark room.
8. Bathroom.
9. Professor's room.
10. Professor's secretary.
11. Lecture theatre.
12. Projection room.
13. Store.
14. Women's rest room.
15. Store.
16. Passenger lift.
17. Service lift.

LOWER GROUND FLOOR

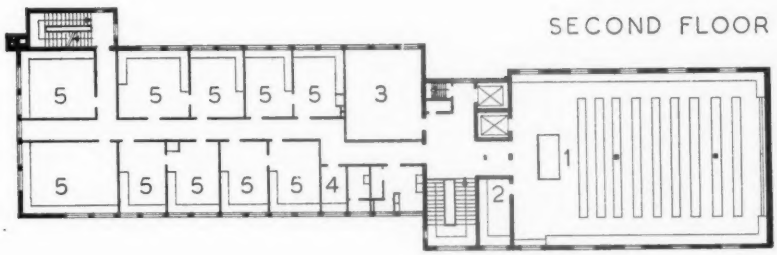


1. Hearse entrance.
2. Embalming room.
3. Office.
4. Body store.
5. Anatomy specimens.
6. Stores.
7. Refrigeration plant.
8. Freezer.
9. Chiller.
10. Dissecting room.
11. Washing table.
12. Men's locker room.
13. Workshop.
14. Staff tea room.
15. Office and store.
16. Staff lavatory.
17. Cleaner.
18. Electrical intake.
19. X-ray.
20. Lower part lecture hall.
21. Preparation room.
22. Film store.
23. Dark room.
24. Fuel store.
25. Heating chamber.
26. Incinerator room.

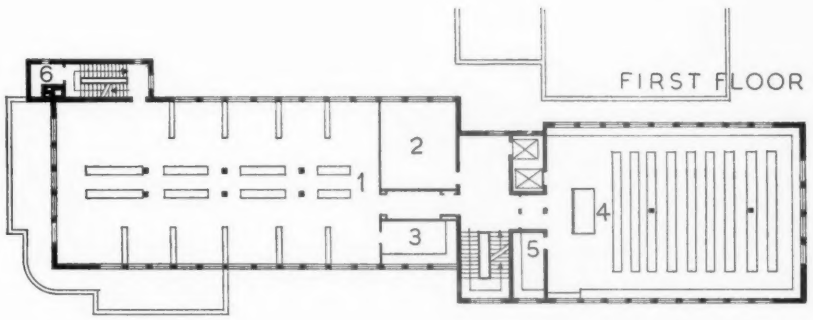
1. Operating theatre.
2. Anæsthetic room.
3. Sterilising room.
4. Research rooms.
5. Animal room.
6. Stores.
7. Dark room.
8. Spare rooms.
9. Incinerator room.
10. Maceration room.
11. Open court.



1. Comparative Anatomy.
2. Preparation room.
3. Demonstration room.
4. Store.
5. Research rooms.



1. Museum.
2. Demonstration room.
3. Preparation room.
4. Embryology and Histology.
5. Preparation room.
6. Fan chamber.



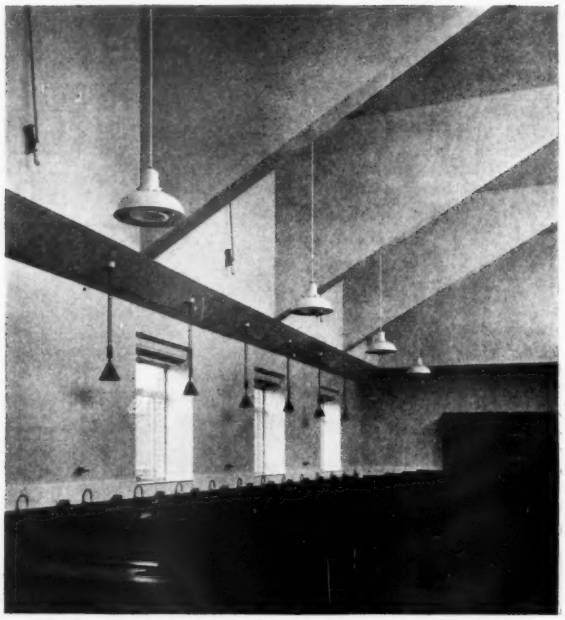
CONTRACTORS AND SUPPLIERS OF MATERIALS

General contractors, and joinery : Messrs. Rattee & Kent, Ltd.

SUB-CONTRACTORS AND SUPPLIERS

Structural steelwork, Messrs. Redpath, Brown & Co., Ltd. ; structural concrete, Messrs. Diespeker ; bricks, Himley Brick Co. ; asphalte, Val de Travers ; heating, hot water supplies, and refrigeration, Messrs. Richard Crittall & Co. ; plumbing, Messrs. Dent & Hellyer, Ltd. ; electrical work, Messrs. Tyler & Freeman ; lifts, Messrs. J. & E. Hall, Ltd. ; windows, Crittall Manufacturing Co., Ltd. ; metalwork, Bromsgrove Guild ; copper roofing, Messrs. Braby ; glass bricks, Messrs. Pilkington ; terrazzo flooring, Messrs. Diespeker ; rubber terrazzo flooring, North British Rubber Co. ; cork flooring, Fram Construction Co. ; tiling, Messrs. Carter and Co., Ltd. ; library and museum fittings, Messrs. J. P. White & Son, Ltd. ; laboratory fittings, Messrs. Baird and Tatlock, North of England School Furnishing Co., William Spriggs ; ironmongery, Messrs. N. F. Ramsay & Co., Ltd.

The Department of Embryology and Histology

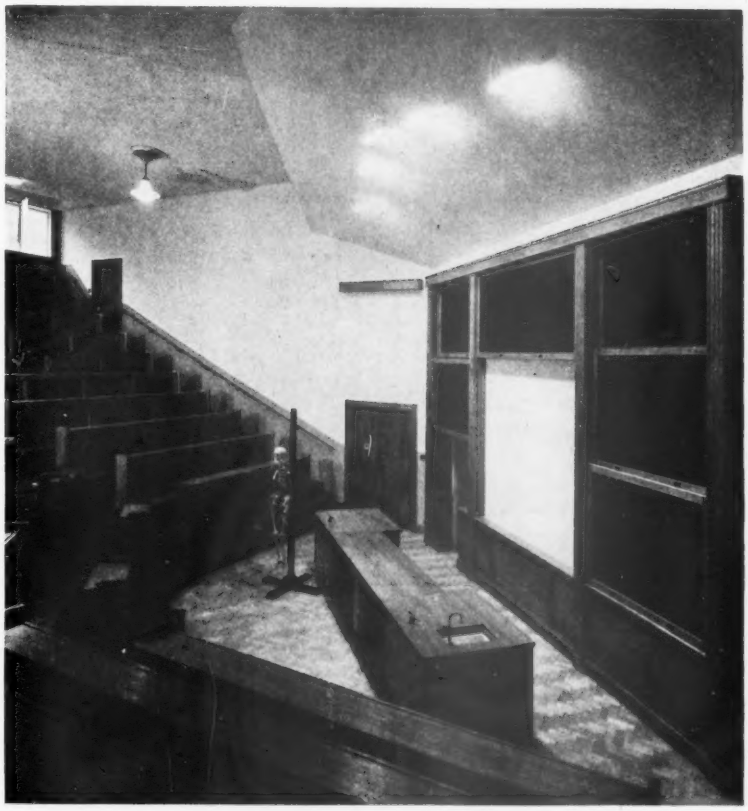


The Comparative Anatomy Department has high north lighting

The gut-washing table in a corner of the Dissecting Room

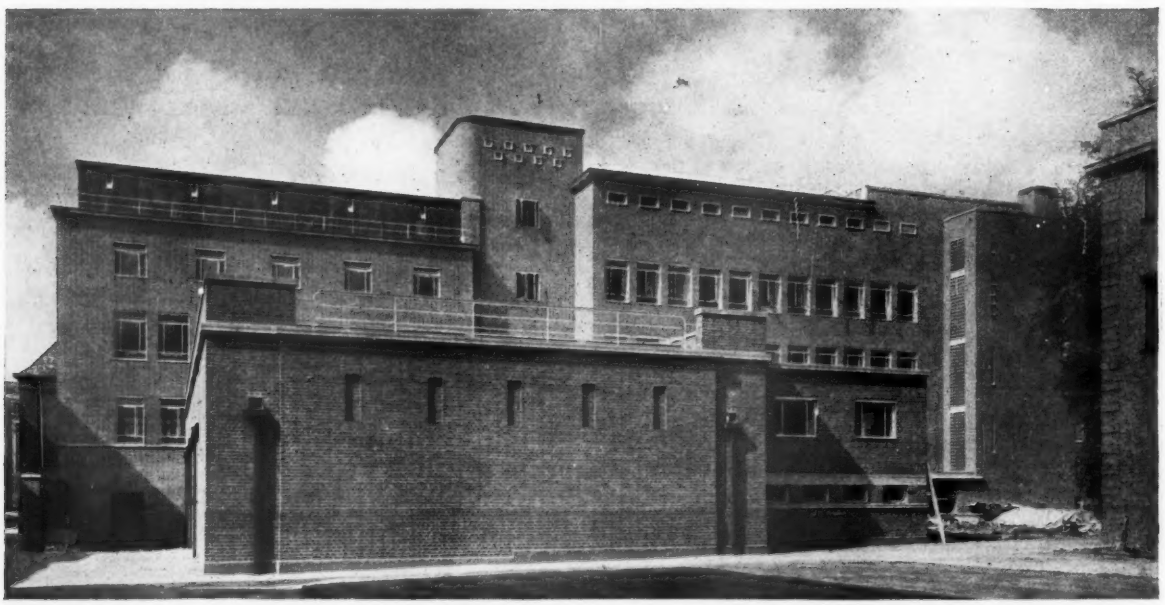
A portion of the Museum

The equipment of the Lecture Theatre includes nine blackboards hung on pulleys in three groups. The central group can be arranged to reveal a screen for an epidiascope at low level or for a lantern at high level. The central portion of the desk is large enough to take a human body and can be revolved. The overhead lighting is incorporated in a hard plaster sound reflector. All controls are on a single panel



Below : the Library has steel shelving

From the north. The main entrance is in the centre. The set-back on the roof of the right-hand block is the north light to the Comparative Anatomy Department



From the south. The hearse entrance to the Embalming Room is on the extreme left. The projecting wing in the foreground is the dissecting room, and has a north light roof

ARCHITECTURE AT INTERNATIONAL EXHIBITIONS

The following memorandum was prepared last April on the suggestion of the Foreign Relations Committee by a joint sub-committee of the F.R.C. and the Exhibitions sub-committee.

The purpose of the memorandum was to provide the Institute for general public use with a statement, as the title says, of its "attitude . . . to the presentation of Architecture at International Exhibitions." It was felt that those inside the Institute who are interested in the matter and have watched some past International Exhibitions of British Arts, Industries and Life with a feeling near to shame, and those who have the task, infinitely more difficult than watching, of actually organising the British exhibits would benefit from a simple considered statement of the place that Architecture can take and should take in the National exhibit.

The memorandum is now published at the Council's request and with the permission of Sir Louis Beale, Commissioner-General.

*A general outline of the attitude of the Royal Institute of British Architects to the presentation of Architecture at International Exhibitions**

GENERAL STATEMENT

Architecture is the background and an essential part of human activity, cultural, social, recreational, industrial and commercial. Every side of life is carried on in or in connection with buildings which are often the most visible and easily understood expressions of a nation's contemporary vitality and ideals. Ancient buildings can be and generally are accepted as representative of the cultures and ideals of past ages. Contemporary architecture is no less representative of our culture and ideals to-day.

An international exhibition cannot afford to neglect this. If it is neglected the whole vitality of the exhibition will necessarily be damaged.

PUBLIC INTEREST

It has been suggested that architecture cannot be exhibited effectively because, unlike most of the other subjects of exhibition, no actual works can be shown, so that it must be displayed in photographs or models. Those who think that it cannot be exhibited are apt to back their opinion by suggesting that in any case architecture is of only slight public interest. All the evidence provided by recent experience obtained by the Royal Institute and other bodies disproves this. The Royal Institute's own exhibitions have had phenomenal success in attracting the public throughout England. During the last year alone over 280,000 people visited the various travelling exhibitions of British architecture organised by the R.I.B.A. : and these it must be noted are exclusively architectural exhibitions with no ancillary attractions. At present a collection of 100 photographs of British buildings is travelling in the U.S.A. at the request of Americans.* The New York Museum of Modern Art held a most successful exhibition exclusively devoted to modern English architecture, and, as evidence of a rather different kind, the London Passenger Transport Board have found that so much interest in contemporary architecture is shown by visitors to London that they are about to publish a guide to contemporary London buildings, not, it should be noticed, for architects, but for the general public.*

Additional evidence can be found, if necessary, in the extent to which architecture—contemporary architecture—was included as an element of first importance in almost every national pavilion at the Paris Exhibition.

PRESENTATION

All claims that architecture is a vital and expressive element in national life may be conceded and it may yet be denied that it can be shown effectively in a national pavilion at an exhibition.* The following are three ways in which the Royal Institute suggest that it can and should be shown :

(*a*) Historically.
(*b*) By the representation of contemporary architecture.
(*c*) By the buildings of the actual exhibition pavilion.

(*a*) *The History of Architecture* can be shown as the evolution of social life and culture in architectural form.

The Royal Institute's experience is that it is better to provide some theme linking the cultural values of the buildings rather than to show detached buildings each perhaps having separate and unrelated claims to attention. The historical section in New York might well emphasise the English antecedents of American architecture. This is a feature of British architecture

* In part it makes special reference to the forthcoming New York World Fair, 1939, but since it has been drafted without detailed knowledge of the conditions that are likely to apply there, its provisions would doubtless require some modification to meet special circumstances.

* The Exhibition has now returned from the U.S.A. tour and the L.P.T.B. guide has been published.

which has always excited interest in the U.S.A. and puts into visible form the common elements in our and U.S.A. culture. Such a theme could easily allow the exhibition of photographs or models of buildings of fame and tourist appeal ; it could also include the simple timber houses of Eastern England which were the Pilgrim Fathers' models. This is only one example of many relevant and coherent themes for an historical exhibition.

(*b*) *Contemporary architecture* is by far the most important side of architecture for exhibition. British architecture did not die in some historical past, but is very much alive now.

Contemporary work can best be shown not as a separate architectural exhibit but in its proper place as the background and an essential element in each and all of the aspects of British life chosen for exhibition ; furthermore, it can make possible the exhibition of some sides of British life which cannot otherwise be exhibited, such as social services in hospitals and welfare buildings generally, pioneering work in town planning, etc.

Industrial exhibits can be given a greater popular human appeal than they are likely to have by themselves by the inclusion of models of factory buildings—the actual buildings being chosen to show the finest developments of modern British enterprise. The transport exhibit could include models and photographs of the London transport stations and the designs for the new Euston, and ships like the *Orion* and the *Queen Mary*. The coal industry exhibit could show new buildings for carbonisation plant and could be humanised by an exhibit of the pithead baths built by the Miners' Welfare Committee, examples of a social enterprise respected throughout the world, which can only be shown by pictures of its buildings.

The forms of English government can be shown by Dominion and Imperial government buildings, by the many remarkable civic buildings throughout the country and by numberless other examples of State building enterprise.

By far the most important and probably the most popular exhibits of this type would illustrate *contemporary social life*. English housing enterprise and town planning is famous throughout the world. Hundreds of visitors come to this country annually to see what we have done, and a properly designed exhibition would attract hundreds more. For the most part this can only be shown in its architectural evidences.

English schools are now being built second to none in their architectural and educational qualities. By 1939 the physical fitness campaign will have produced sports buildings, baths, gymnasia, parks and seaside buildings which will show this side of our life more vividly than it could be shown otherwise.

(*c*) *The building of the pavilion* will itself be an example of our recognition as a nation of the importance of architecture. The Royal Institute wishes to emphasise, however, that the architectural value of a pavilion does not end with the design of the structure and its architectural ornament. The display of each group of exhibits is an architectural matter no less, which must be related to the whole, and the architect of the pavilion and his chosen collaborators should be given full powers to control or supervise the detail planning and design of every individual stand and section of the exhibits.

Display

The manner in which the architectural features in an exhibition can best be displayed cannot be a subject for generalisation. Each section must receive special treatment to bring out the salient interests and to avoid monotony. In some sections architecture may come to the fore and be almost the chief feature, in others it will appear in the background, a suggestion merely of environment and intention. In some sections models will predominate, in others photographs ; in some sections direct pictures of buildings, in others buildings shown only as the backgrounds of human work or play.

It cannot be emphasised too strongly that although the organisers of an exhibition can and must say *what* story they want told, the effectiveness of its telling must depend entirely on the skill and imagination of the storyteller—the designer of the exhibit.

CONCLUSION

It is not the Royal Institute's intention to force architecture aggressively into the foreground everywhere, but merely to press for recognition of the fact that architecture is the inescapable background against which every human activity may be seen in its cultural and artistic perspective.

The Royal Institute has special experience which it is prepared to offer to the limits of its abilities because it is conscious, as indeed it must be in so far as it is in some way trustee for British architecture, that these things outlined in this memorandum have in the past been neglected.

It would be wrong for the Royal Institute to pretend to be disinterested ; the Royal Institute is vitally interested in this. High as the prestige of British architecture undoubtedly stands in the opinion of informed people in most other countries and particularly in the opinion of Americans who have derived so much from it, our failure to emphasise on such public occasions as international exhibitions that the art of architecture is particularly alive to-day in England has resulted in some loss of prestige which it is our duty to remove not by allowing it to be thought that the only buildings worth seeing in Britain were built before the 19th century, but by drawing attention to all the best work that is being done *now*.

Book Reviews

THE BIBLE OF MODERN BUILDING*

The Building Research Station have published the first volume of their long-awaited textbook on building. This is an event of such magnitude that it may be said to begin a new era in the science and art of architecture in Great Britain.

It is a commonplace to say that building technique has changed and is changing so rapidly that not only are all the old textbooks out of date, but that the production of new ones has been made hardly worth while. This fact is but an indication that building is turning over from a rule-of-thumb basis to a scientific one. This change has begun and progressed some way almost unnoticed. New materials and methods of construction have been developed and attempts to graft them on to the older technique have been only partially successful ; in some cases failure has resulted.

What has been wanted is a new method of approach on the part of the designer. He has to look at his available resources and their application to problems in a new light. As one eminent architect put it, he has to forget much that he accepted as fixed and good practice and to start again from fundamentals in a new way.

That the Building Research Station's book is entitled *Principles of Modern Building* is very significant. They have not tried to tell us how to use this or that new material, but have set out the new basic rules according to which all modern building, using materials new and old, must be tackled. They have therefore abandoned the old method of discussing materials and crafts seriatim, beginning with brickwork and continuing through masonry, carpentry, joinery, plumbing, etc. Instead the book is arranged according to building units, namely, walls, partitions, chimneys, roofs, etc. The characteristics or functions of each unit are discussed together as, for instance, in the case of walls, their durability, strength, exclusion of rain, heat insulation, moisture and thermal movements, fire insulation, sound insulation and appearance.

Architects will perhaps study the remarks on appearance with mixed feelings. Design is so much a matter of individual opinion—often fiercely contested opinion. But the recognition that design is an important element in building technique (most architects would say it is the first element) is of real importance if only because it breaks down a barrier that has long separated the architect from the engineer and builder. It is inevitable that some architects will quarrel with the author's conclusions on the subject of appearance, though they are moderately worded and confined to facts generally accepted. That hardly matters against the fact that building is accepted as a combined science and art—a technique of design and construction—to be served by all the elements, professional and trade, of the whole Building Industry.

No corporate body, and certainly no single person, could have undertaken the gigantic task that this and the forthcoming volumes represent, anything like so capably as B.R.S. They have as background seventeen years of intensive research in the laboratory and examination of innumerable buildings. Being outside the Industry and impartial they have obtained a clear view of all the problems and the ways of meeting them, the successes and failures, of modern building. Unlike the Industry itself they have not taken for granted old ways of doing things, but have subjected all methods and materials, both new and old, to the same ruthless scrutiny.

When the series of books was first considered there was some discussion as to whether they should be a compilation of separate sections by experts or whether the whole work should be undertaken by one man. The latter course was wisely chosen, because only in the hands of one man could the multifarious aspects of each building problem be adequately correlated. The author chosen was Mr. R. Fitzmaurice, who succeeded the late P. W. Barnett as head of the Information Section of B.R.S. He has performed his complicated and arduous task admirably. The book is eminently readable (though by no means light reading) and for the most part he takes readers not scientifically trained, by easy stages into a world that has mainly a scientific outlook. Apart from the contributions of knowledge from other members of the staff of B.R.S. he has been specially helped by Mr. F. L. Brady, Mr. C. J. Morreau [*A.*], Dr. A. H. Davis, of the N.P.L., and Mr. J. L. Manson, of the Board of Education.

Members of the R.I.B.A. can regard with some satisfaction the fact that the *Principles of Modern Building* is the result of a joint request made by the R.I.B.A. and the Chartered Surveyors' Institution. An Advisory Committee, representative of all sections of the Industry, was established under the chairmanship of Sir Raymond Unwin—a choice of chairman perhaps as obvious and inevitable as was the choice of chief author.

The preface emphasises the fact that " Any satisfactory formulation of the principles of building must depend in the long run on the pooling of the accumu-

**Principles of Modern Building.* By R. Fitzmaurice, B.Sc., Assoc.M.Inst.C.E. 4to. 400 pp. London : H.M. Stationery Office. 1938. 10s. 6d.

lated practical experience of those professionally engaged in the industry and the knowledge obtained by research workers—and the Station will welcome the co-operation of architects, builders and others, who bring to its notice any evidence or experience which might modify the ideas or statements made." These books, and the future editions which will be needed, cannot be a mere *ex-cathedra* pronunciation by research workers but a co-operative effort by all concerned.

The *Principles of Modern Building* is not a book that the architect may buy if he wishes. He cannot afford to be without it, unless he cares to run the risk of one day finding himself in an alien world—a world that has changed while he has remained as he was.

CIVIC ART AND FUNCTION*

Dr. Werner Hegemann's Last Work

Since 1922, when *Civic Art*, by Hegemann and Peets, was published, that volume has stood pre-eminent amongst comprehensive works on the design aspects of town planning. There has now appeared what is in effect its successor, a three-volume work by Werner Hegemann — co-author of *Civic Art*—and others. Volumes 1 and 2, published in 1937, dealt with the history, economics and sociology of planning. Volume 3, with which we are concerned in this notice, is almost exclusively a graphic record of recent achievements in town and country planning throughout the world, a review of the advances made during the last 15 years.

The authors were wise in splitting the material into three volumes. In the first place architects and planners are prone to think too much about those many aspects of planning which are the especial concern of other experts in the planning system, and too little about their own particular job, that of designing, creating. Whilst it is necessary as a basis for design to know something of the other aspects, we ought surely to devote our main interest to design. Volume 3 is essentially the designer's volume. In the second place the triple volume method, with its greater elasticity, will help enormously towards bringing the material within the reach, financially, of a far greater public than was the case with *Civic Art*.

The up-to-date and world-wide character of the book may be judged from the fact that in it are representative works of Corbusier, the Pontine Marshes of Italy, the new plan of Moscow, the Paris Exhibition of 1937, the new University, London, the latest slum clearance schemes in Liverpool, the Slussen scheme at Stockholm, and many more planning works recently carried out or in course of development. Occasional glimpses into the future are given, as for example the plans for New York's World Fair of 1939, and the San Francisco Golden Gate International Exhibition of the same year.

Similarly the wide scope of the book can be judged from this partial list of the subjects dealt with : parkways, viaducts, bridges, roads, play grounds, beach resorts, rail and 'bus terminals, garden cities, apartment houses, health and educational groups, and cottage estates.

The outstanding characteristic of the book is its catholicity of taste and its impartiality. A fine discernment has been shown in the selection of material. In view of the world-wide ramifications of the book and the great amount of planning and housing carried out in the last 15 years, the authors' task of sifting out the illustrations must have been a prodigious one. There has been no pandering to individual dogma, theories or practices. The flat is represented equally with the cottage, ultra-modern architecture with traditional, and formal design with informal. Good design, according to to-day's standards, has been the only common denomination, the sole arbiter as to what material should be included or excluded.

With its 1,144 illustrations, roughly half of them photos and the rest plans and diagrams, it will be obvious that the textual matter has had to be cut down to a minimum. A few brief notes are given with the illustrations, but generally speaking the latter have been left to tell their own tale. There is very little of that bias towards American work which one might naturally have expected, and there is, too, an almost entire—and perhaps refreshing—absence of that form of genealogical analysis which was to be found in *Civic Art* and which, indeed, is common to most American or American-qua-German planning books. An exception to this is to be observed in the caption which seems to suggest that the lakeside resort of Wansee, Berlin, was the prototype of the Bexhill Pavilion.

The book contains a number of illustrations which will come as a surprise to many readers. For instance, those who have so vigorously advocated multi-storey dwellings in a park-like setting, and who have perhaps despaired of seeing them as a *fait accompli*, will be surprised to find that such a scheme has been carried out at Alden Park, Philadelphia. This is a private development scheme in the form of high-rented apartments in an expensive open site

A Preface gives a cursory outline on the development of cities and towns through the ages. It describes the chaos of the nineteenth and twentieth centuries and says " There must be a solution to this chaos. This does not lie in mere doctrines, but in sympathetic co-operation of enlightened government and public spirited citizens."

**City Planning and Housing*. By Werner Hegemann. 162 pages. 1,144 illustrations. fo. New York: Architectural Book Publishing Co. 1938. Price 13.75 dollars.

It sums up the problems facing us to-day—" they lie not in the unlimited expansion of cities and towns, as in the past, but in careful reconstruction according to modern conditions, decentralisation of over-built areas, and re-organisation into small and more economic units." Planners here will agree with all this, though they are well aware of the great obstacles to be overcome, particularly in a democratic country, before the objectives can be achieved.

There is one suggestion which might usefully be made. It would be a great help, in any future edition, if in the captions some indication could be given as to the best sources for obtaining fuller information on the schemes.

Readers should not expect to find any specific side of planning dealt with comprehensively. The authors' objective has been merely to introduce them to the many aspects by giving individual illustrations. We may eventually have specialised works on each of them, but in the meantime architects and planners cannot do better than acquire a copy of *City Planning and Housing*.

WESLEY DOUGILL [*A.*]

GOOD ADVICE

PLAN YOUR HOUSE TO SUIT YOURSELF. *By T. S. Rogers. 4to, 282 pp. London and New York : Scribners. 1938. 12s. 6d.*

This is a thoroughly good book. Some people won't like the idea of it, thinking that it is just another ideal home-ish layman's handbook, and there will, perhaps, be self-conscious professional men who will resent the suggestion that the client has any share in planning his house, even if it is to suit himself! But critics of this kind will be entirely wrong ; here is a book which should be as useful—and stimulating, too—to most architects as it will be to any laymen prospective house-owners lucky enough to read it before or while opening up their dealings with their architect.

In no way is the book anti-architect, but it is definitely pro-client. The author is an American who has prepared many articles on equipment and planning for the *American Architect and Architecture* and the *Architectural Forum*, and sets about his job of analysing domestic needs and their solution with as good understanding of the professional and technical point of view as he has of the lay point of view

The scheme of the book is analysis by the " check list method " which is widely used in the U.S.A., and could be more used here as a safeguard that nothing will be forgotten. A fully developed check list is only the completion of a natural system used in varying forms by every architect, but, whereas generally the architect is content to find out his client's wants on all but major issues as he goes along, the compilation of a check list assures that he knows, or thinks he knows, what the client wants, even to the number of coat-hangers for stored out-of-season coats, before planning starts. There is some danger in the system, which, if unintelligently used, can provide the architect with such a maze of facts that he cannot get through to the big idea. Also too close designing to data, if carried out blindly, may produce inflexibility in service and equipment, but the author constantly warns his readers against this, and says " minimum sizes are to be avoided rather than recommended."

Every apartment of the house is considered in turn, a check list provided, and the detail requirements discussed ; general planning and site planning, mechanical equipment, lighting construction, materials and finally finance, are each given chapters. The author is an American, and consequently a number of his suggestions—such as concern, for instance, the use of air-conditioning, do not at present apply to English practice, but even if those are omitted Mr. Rogers has given his English readers a good twelve shillings and sixpence worth of technical advice and common sense. Almost every point in the discussion is illustrated by uncommonly good plans, thumb-nail sketches and diagrams.

LONDON'S BUILDING LAW

CONSTRUCTION OF BUILDINGS IN LONDON. *8vo, 238 pp. Published by the L.C.C. Agents : P. S. King, London. 1938. 5s.*

With the present rapid development of building technique, it is inevitable that the volume of official regulations must increase so that merely to keep track of current rules takes much of the architect's time. There is no doubt, therefore, that this new L.C.C. publication, covering many of the most important regulations, will be appreciated as a really useful work. It contains the byelaws of the Council so far published, including the new timber byelaws ; the regulations dealing with reinforced concrete and welding, and the memorandum issued by the Council giving guidance for the computation of stresses in buildings. Extracts are also given from the London Building Act of 1930, together with extracts from those British Standard Specifications which are referred to in the various regulations ; together with a full index.

At the same time one may reasonably ask for more. In the foreword it is stated that " Persons using the volume should not, however, assume that the inclusion or exclusion of any matter has any legal significance. In all cases buildings in the County of London must comply with the whole of the legislation on the subject whether included in this volume or not." The legal maxim that ignorance of the law is no excuse is becoming more and more of a farce, when the volume of regulations is so much greater than can be carried in the mind of any one man. It is surely reasonable to require the authorities to publish from time to time what might be described as directories to their own requirements. There are, of course, a number of well-known and thoroughly satisfactory commentaries on the law of building which are brought up to date from time to time, but in the main these are not normally referred to except in the case of a dispute, since they are designed primarily for the legal mind.

A directory to act as a check list for everyday use would be of great help and it might well be started by a list of all those authorities to whom application may have to be made for any class of building. At present it is exceedingly difficult to avoid omitting one section or one authority, so causing endless delay.

This volume is certainly a step towards this end which we hope will be followed by others in the same direction.

HOUSING RENTS

RENTS FOR THE WORKING CLASSES. *Report of the International Housing and Town Planning Congress, Paris, 1937. sm. fo. 288 pp. Published by the International Housing Association, Frankfurt on Main, 1938.*

This report contains the national surveys contributed to the Congress by twenty-four countries. The reports are published in French, German and English.

A NEW BUILDING CONSTRUCTION TEXT-BOOK

BUILDING CONSTRUCTION. VOL. I. *By W. B. McKay, M.Sc.Tech., M.I.Struct.E., with drawings by author. ob. 11½″×8¾″. London: Longmans, Green. 1938. 6s.*

This text-book, which traverses the building trades from bricklayer to plumber, and is intended primarily for the use of students at technical classes, is well-designed and conveniently presented for use and reference. Its information, and the very clear drawings by which it is explained, both appear to be reasonably up to date, and the language employed is concise and easy—which is not invariably the case in technical books. The chapter on Masonry seems exceptionally good, and the various forms of rubble walling are better described than this reviewer has previously found—even Lake District "watershot" walling is fully described and drawn; also flint walling.

Having said so much, a few mild criticisms of detail must follow, which it is hoped may be taken as constructive in intention. Several references to British Standard Specifications appear, but more might well be included. There is, for instance, an illustration on Fig. 70 of a plain tile in which the nibs or stubs are shown on the extreme corners of the head, which is a position in which they are so weak and liable to fracture that the more usual position set in from the angle is greatly to be preferred.

In joist-and-board floors at ground level, the practice of supporting joist-ends adjacent to exterior walls upon independent sleeper walls parallel to, but out of contact with, the structural wall is not only more convenient in practice than building in (as shown an Fig. 32) but removes both wall plate and joist-ends from considerable risks, and the wall itself from liability to weakening should the timber decay. This method is alternatively shown in Fig. 10, and referred to in the text, but by inference declared to be more expensive; inp ractice there is little difference, since all joists are shorter and the complication of forming pockets is avoided.

Some of the commonest structural methods (e.g., cavity-walling) are deferred until a subsequent volume. This is presumably dictated by the Examination syllabus, and to that extent unavoidable, but it may be thought unfortunate that students should not at once be made acquainted with the essentials of what is fast becoming everyday practice.

E. G.

A SOCIAL HISTORY OF ARCHITECTURE

THE ARCHITECTURE OF ENGLAND—FROM NORMAN TIMES TO THE PRESENT DAY. *By Frederick Gibberd. Sm. 4to. 48 pp. London: Architectural Press. 1938. 5s.*

Popular books on English architecture have too often been dry little catalogues of clues to help the layman date and label certain respectable categories of buildings in certain respectable periods of history. Because they did not regard architecture as a manifestation of social life they have helped to create the impression that architecture is one of the higher parlour games, to be played or not according to how one feels about it.

Mr. Gibberd has written a very different sort of book, for he sees that the styles of English architecture have little meaning unless they are related to the periods of history during which they developed, and that this relation cannot be established merely by filling in a vague social background and saying, for instance, that the streets were deplorably dirty and footpads lurked round every corner.

In this lively picture book he shows us the evolution of English architecture in terms of the society which produced it, the way people behaved, and the materials and labour they had at their disposal. Each section is headed by a brief summary of the important political and social changes of the period, and the thought and opinions that went with them, followed by contemporary illustrations and explanatory diagrams of buildings and details, notes on the characteristic building activity of the period and its architectural character, a short list of buildings to see, and (with the exception of a *montage* of Salisbury Cathedral on page 13) plenty of good, simple and straightforward photographs.

The pages are sensibly and clearly laid out, and the information is attractive to look at. It is a book which should be in all public libraries and schools, but it is not only the layman who will find it useful in giving him a picture of architecture as a natural product of everyday life. It might well be bought by every first-year architectural student when he enters his school.

A. C.

NURSERY AND ELEMENTARY SCHOOLS DESIGN

THE DESIGN OF NURSERY AND ELEMENTARY SCHOOLS. *By H. Myles Wright and R. Gardner-Medwin. 4to, 120 pp. London: Architectural Press, 1938. 10s. 6d.*

As a general survey of the present position of school designing as the result of the Hadow Report the book is extremely good.

This wide subject has been summarised clearly and concisely, and the text is supported by good photographs, and by a large number of plans and diagrams, which, though mostly small, are clear, useful and to the point, and give the general form of the design, free from irrelevancies, in a way that should be clear to all readers, lay as well as professional.

The choice of illustration is wide and varies from photographs or drawings of projects, models, general views of existing work, interiors, and details such as the sizes of chairs for children of different ages, to well-chosen, though often familiar, photographs of the life of a child in the better-designed schools of both this country and abroad.

Similarly the text covers an equally generous range such as the conditions of the past, principles of administration, attendance figures, and a critical survey of fittings, plan units and general arrangements, together with a short chapter on the relation of the school to the community as a whole.

Each of the three main types—Nursery and Infant, Junior and Senior schools—is treated separately under two main headings—the Present Position and Plan Units. In the former the authors very briefly describe the place the type in question has in the general educational system and the general influences controlling design; in the second each plan unit is itemised—classrooms, assembly halls, and so on—and careful statements made on the requirements of the unit as a whole and of each part or element of its equipment. These three main chapters are followed by a conclusion which deals with the merits of the various building materials. In this way the book makes an extremely useful technical reference for general designing.

The authors put forward a strong argument for the light and flexible form of construction which should go a long way to converting those who are still prejudiced in favour of the more massive and permanent structures.

The book first appeared as a series in the *Architects' Journal*, to which very little has been added except a very pleasing binding.

D. C. H.

Review of Periodicals

Attempt is made in this review to refer to the more important articles in all the journals received by the Library. None of the journals mentioned are in the Loan Library, but the Librarian will be pleased to give information about price and where each journal can be obtained. Members can have photostat copies of particular articles made at their own cost on application to the Librarian.

Normally the journals referred to in this review, all of which are in the R.I.B.A. reference library, cannot be borrowed. Members are, however, asked to encourage their local public libraries and their local society's library to take as many journals as they can afford; and they are asked, for the convenience of local members, to notify the R.I.B.A. of what journals are known to exist in public or private hands in their own neighbourhood.

SCHOOLS

IRISH BUILDER AND ENGINEER. *1938. 15 October. P. 864.*
New Model School, Belfast, for 1,000 pupils, by R. S. Wilshere [*F.*].

L'ARCHITETTURA ITALIANA (TURIN). *1938. No. 9. P. 273.*
Technical school for aviation in Florence, by R. Fagnoni.

UNIVERSITIES

ARCHITETTURA (ROME). *1938. September. P. 521.*
Project for Brazil University at Rio de Janiero, by M. Piacentini and V. Morpurgo.

L'ARCHITETTURA ITALIANA (TURIN). *1938. No. 9. P. 263.*
Proposed building for Trieste University, by R. Fagnoni and U. Nordio.

LABORATORIES

ARCHITECT AND BUILDING NEWS. *1938. 21 October. P. 62.*

ARCHITECTURE ILLUSTRATED. *1938. October. P. 94.*
Laboratories for the Metropolitan Water Board in Rosebery Avenue, by Stanley Hall & Easton and Robertson [*FF.*].

MUSEUMS AND EXHIBITIONS

BYGGMÄSTAREN (STOCKHOLM). *1938. No. 27. P. 281.*
Scheme for the Swedish Pavilion at the New York World's Fair, 1939.

BULLETIN TECHNIQUE (LAUSANNE). *1938. 8 October.*
Aerial perspective of the proposed Swiss Exhibition at Zurich in 1939.

BAUGILDE (BERLIN). *1938. 5 October. P. 942.*
Article on the Principles of Museum building, by Dr. W. Rahmelow.

LIBRARIES

R.I.B.A. JOURNAL. *1938. 17 October. P. 1019.*
Weir Hall Branch Library and Clinic, Edmonton, by A. Wilkinson [*A.*].

DESIGN AND CONSTRUCTION. *1938. October. PP. 411, 414.*
Harold Cohen Library, Liverpool University, by H. A. Dodd.
Aspley Branch Library, Nottingham, by R. M. Finch.

RADIO

ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 272.*
Broadcasting Station, Schenectady, by Harrison and Fouilhoux. Five studios.

CIVIC

ARCHITECT AND BUILDING NEWS. *1938. 21 October. P. 69.*
Extension to Lambeth Town Hall, providing additional office accommodation, a new court room, and a public hall to seat 500, by Whinney, Son & Austen Hall [*FF.*].

ARCHITECT AND BUILDING NEWS. *1938. 28 October. P. 92.*
The Hall of Nations, Cardiff, by Percy Thomas [*F.*], providing accommodation for the Memorial Association Headquarters and the League of Nations Union, and also a Temple of Peace.

DESIGN AND CONSTRUCTION. *1938. October. P. 396.*
Reference section on Public Buildings, compiled by F. E. Towndrow and Brenda Verstone, dealing with administrative buildings, police stations and court houses, libraries and fire stations.

DESIGN AND CONSTRUCTION. *1938. October. P. 415.*
Fire station at Barking, by C. C. Shaw [*A.*].

HOTELS AND RESTAURANTS

PENCIL POINTS (NEW YORK). *1938. October. P. 652.*
Data on cafes, giving concise notes on floors, walls, ceilings, lighting, toilet facilities, doors, windows, ventilation, equipment and waste disposal.

EDILIZIA MODERNA (MILAN). *1938. No. 27-28.*
Number on hotels.

SHOPS

ARCHITECT AND BUILDING NEWS. *1938. 28 October. P. 105.*
The Pantheon, Oxford Street. New premises for Messrs. Marks & Spencer, Ltd., by W. A. Lewis & Partners [*AA.*] and Robert Lutyens, in association with E. E. Shrewsbury.

WELFARE AND COMMUNITY BUILDINGS

ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 248.*
Summer home for crippled children, Delaware, by V. E. S. Homsey. Timber construction, and pleasant non-institutional character.

CASABELLA (MILAN). *1938. No. 129. P. 4.*

ARCHITETTURA (ROME). *1938. September. P. 521.*
Interesting building for children undergoing treatment by natural sunlight, by Banfi, Belgioioso, Peressutti and Rogers.

CASABELLA (MILAN). *1938. No. 130. P. 6.*
Large seaside holiday colony for children at Cesenatico, by G. Vaccaro. Good photographs.

HOSPITALS, ETC.

MODERNE BAUFORMEN (STUTTGART). *1938. October. P. 557.*
Ear, nose and throat clinic in Stuttgart.

ARCHITEKTURA I BUDOWNICTWO (WARSAW). *1938. No. 7. P. 203.*
Large hospital, by S. Odyniec-Dobrowolski.

SPORTS BUILDINGS

ARCHITECTS' JOURNAL. *1938. 20 October. P. 655.*
Extensions to West Bromwich indoor baths, providing large bath equipped for championship meetings and capable of being floored over for dancing, by D. Ellison and B. Lowe.

ARCHITECTURAL RECORD (NEW YORK). *1938. October. P. 43.*
Bathing place, restaurant and open-air bath at Ouchy, Switzerland, by Marc Piccard.
ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 254.*
Cambridge Yacht Club, Maryland, by V. E. S. Homsey, comprising lounge, locker rooms and workroom.
ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 258.*
Large gymnasium for Hofstra College, by A. Embury.
ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 261.*
Hollywood Turf Club, California, by S. O. Clements. Interesting enclosed paddock, seats for 13,000, standing room on terraces for 37,000, and parking space for 14,500 cars.

THEATRES

ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 270.*
Model Theatre, Michigan, by W. L. Pereira. Seating for 460.

RELIGIOUS

DAS WERK (ZURICH). *1938. October. PP. 297-306.*
Church at Zurich-Wollishofen, by W. Henauer and E. Witschi.
Church at Basle, by K. Egender and E. F. Burckhardt, with an interesting steel framed belfry.
HET BOUWBEDRIJF (THE HAGUE). *1938. 28 October. P. 218.*
Church at Nakkila, Finland, by E. Huttunen.

HOUSES

ARCHITECTS' JOURNAL. *1938. 27 October. P. 696.*
ARCHITECT AND BUILDING NEWS. *1938. 28 October. P. 99.*
Reinforced concrete house in Frognal, Hampstead, by Connell, Ward and Lucas [*AA.*].
BUILDING. *1938. October. P. 408.*
Small steel house in California, by Richard Neutra.
ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 275.*
Results of a Small House Competition sponsored by the Ladies' Home Journal. Cube approximately 15,000 cubic feet. First Premium, Neumann and Struppmann. Second Premiums included Richard Neutra. Nineteen schemes fully illustrated.
ARKITEKTEN (COPENHAGEN). *1938. No. 7-8.*
Good number on Week-end Houses and Summerhouses. Also illustrated is an interesting American two-storey trailer caravan.
CASABELLA (MILAN). *1938. No. 129. P. 12.*
Luxuriously equipped house at Livorno, by G. Palanti.

FLATS

ARCHITECTS' JOURNAL. *1938. 13 October. P. 601.*
Highpoint Number Two, a reinforced concrete block of flats at Highgate, by Tecton.
ARCHITECT AND BUILDING NEWS. *1938. 21 October. P. 74.*
Flats in the Rue des Patures, Paris, by J. Ginsberg and F. Heep. Typical floor plan comprises two family flats and one bachelor flat.
BUILDING. *1938. October. P. 397.*
R.C. frame block of flats at 65 Ladbroke Grove, by E. Maxwell Fry [*A.*].
ARCHITECTURE ILLUSTRATED. *1938. October. P. 121.*
Small block of flats in Chester Way, Kennington, by Louis de Soissons [*F.*].
TOWN AND COUNTRY PLANNING. *1938. October-December. P. 153.*
Examination by London social workers of life in working-class flats, condemning the present tendency towards flats in favour of cottages.
CHANTIERS (ALGIERS). *1938. No. 9. P. 403.*
Working-class flats in Amsterdam, by Merkelbach and Karsten.

MATERIALS

NATIONAL BUILDER. *1938. October. P. 95.*
Article on Zinc by C. C. Handisyde [*A.*] in the Developments in Materials series.
BUILDING. *1938. October. P. 427.*
A floor for roller skating rinks composed of compressed asbestos-cement sheeting.

CONSTRUCTION

PENCIL POINTS (NEW YORK). *1938. P. 663.*
Details of modern fireplaces.

HISTORICAL

R.I.B.A. JOURNAL. *1938. 17 October. P. 1005.*
The Agora of Miletus, by R. E. Wycherley ; an article dealing with its development from the 5th century B.C. to the 2nd century A.D.

BIOGRAPHICAL

ARCHITECT, BUILDER AND ENGINEER (CAPE TOWN). *1938. August. P. 22.*
Article on Frank Lloyd Wright, "stormy petrel of architecture."
PENCIL POINTS (NEW YORK). *1938. October. P. 609.*
Paul Philippe Cret's work. A very fully illustrated section covering civic, university, and business buildings, memorials, bridges and railway rolling stock.
ARQUITECTURA Y DECORACION (MEXICO). *1938. July.*
Good number on Richard Neutra's work, with a lecture (in English) delivered by Neutra in Mexico in 1937.

TOWN AND COUNTRY PLANNING

KEYSTONE. *1938. October-November. P. 9.*
Article by F. Lasserre. on Neubühl, a garden suburb of Zurich.
TOWN AND COUNTRY PLANNING. *1938. October-December. P. 140.*
Planning in relation to Defence, a paper by A. R. Astbury, Technical Adviser, A.R.P. Department of the Home Office.
ARKADY (WARSAW). *1938. No. 10. P. 489.*
Article, with interesting illustrations, on townplanning in relation to defence, dealing mainly with mediæval towns.

GENERAL

NATIONAL BUILDER. *1938. October. Supplement 5.*
Method of preventing earwigs reaching the interior of buildings.
DESIGN AND CONSTRUCTION. *1938. October. P. 377.*
Part I of "A Short History of Architectural Drawing and Topography," by R. Myerscough Walker.
BUILDING. *1938. October. P. 403.*
Article on the technique of military camouflage, by O. P. Bernard.
PENCIL POINTS (NEW YORK). *1938. October. P. 639.*
"Freedom in the Garden", an article putting forward a contemporary approach to landscape design, by J. C. Rose.
ARCHITECTURAL FORUM (NEW YORK). *1938. October. P. 295.*
Valuable section on clothes closets, with fully figured diagrams.

Accessions to the Library

1938-1939—I

Lists of all books, pamphlets, drawings and photographs presented to or purchased by the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists of reference.

Any notes which appear in the lists are published without prejudice to a further and more detailed criticism.

Books presented by publishers for review marked R.
Books purchased marked P.

* *Books of which there is at least one copy in the Loan Library*

This accession list has the classification number of each work added to the entry. The classification is that used in the library and in the published catalogue, in which a detailed description of the system will be found.

The numbers will be included in all future lists.

ARCHITECTURE

Year Books :—

NORFOLK AND NORWICH ASSOCIATION OF ARCHITECTS
1938. R.

SHEFFIELD, SOUTH YORKSHIRE AND DISTRICT SOCIETY OF ARCHITECTS AND SURVEYORS
Golden jubilee annual report 1937-38.
1938. R.

TERROT (A. E.), *editor* 058 : 72 (82)
Anuario de arquitectura y tecnica. Terrot. Auspiciado por . . . Sociedad Central de Arquitectos, Centro Estudiantes de Arquitectura.
3rd ed. 12″. Buenos Ayres. 1938. R.

PALLADIO (ANDREA) E.W. 72 : 013 (45)] 729.321
I Quattro libri dell' architettura, *&c.*
EDITIONS OF BOOK I (ORDERS) ONLY. [English.]
The First book of architecture, . . . Translated out of Italian : with an appendix touching doors and windows, by P^r^ Le Muet . . . Translated out of French by G. R[ichards]. *&c.* (. . . W^th^ diuerse other designes . . . by Godfrey Richards, *engraved sub-title.*)
4th ed. . . . With the new model of the cathedral of St. Paules as it is now to be built.
sm. 40. London. 1683.

SCAMOZZI (VINCENZO) E.W. 72 : 013 (45)
L'Idea, *&c.*
EDITIONS OF BOOKS III & VI ONLY. [English.]
[The Mirrour of architecture : *&c.*] (The Booke of architecture, *&c., frontispiece title.*)
[? ed.] sm. 40. London. [16—.]
Imperfect. Title-page and many leaves lacking.
—Both presented by Mr. G. Cowan [Ret. A.].

EDUCATION

PARIS : ECOLE DES BEAUX-ARTS 72 : 37 (07) (44)
Les Concours d'architecture . . . 1937-1938.
pfo. 11¾″. Paris. [1938.] (18s.) P.

THEORY

[LE CORBUSIER, *pseud.*] 72.01 : 7.01] 62
Des canons, des munitions ? Merci ! Des logis . . . s.v.p. (Monographie du Pavillon des Temps Nouveaux à l'Exposition Internationale Art et Technique de Paris 1937.)
ob. 9″×11¼″. 148 pp. Boulogne : Architecture d'Aujourd'hui. [1938.] (13s. 6d.) P.

HISTORY

RICHARDSON (A. E.) *and* CORFIATO (H. O.) 72.03
*The Art of architecture.
9¾″. xxiii+662 pp. incl. pls. (backed). Lond. : English Univs. Press. 1938. £2 2s. R. & P.

E.W. 72.03 (41/42)
HEARNE (THOMAS), *draughtsman, and* BYRNE (W.), *engraver*
Antiquities of Great Britain, illustrated in views of monasteries, castles, and churches, *&c.* (*Text in Engl. and French.*)
2 vols. in 1. ob. fo. bound as fo. Lond. 1807.
Vol. ii *possibly imperfect.*
Presented by Mr. J. E. Yerbury [F.].

SEKINO (TADASHI) *and* TAKESHIMA (TAKUICHI) 72.03 (518)
Jehol. The most glorious & monumental relics in Manchoukuo.
4 vols. in 2 cases. 17″. Tokyo : Zauho Press. 1934.
Presented by the Japanese Embassy.

ROSTOVTZEFF (M.) 72.032.7 (39.4 D)
Dura-Europos [Syria] and its art.
9½″. xiv+162 pp.+xxviii pls.+2 folding pls. Oxford : Clarendon. 1938. 15s. P.

PITE (W. A.) MS. 72.034 (42).3
A Review of the architecture of the Elizabethan period. An essay.
typescript, *Ink D., Phot., & Repr.* 12½″. [1900, *back.*]
Presented by the Author [F.].

72.036.6 (495) : 693.55
MAILLART INGENIEURBUREAU, *Zürich & Bern*
——. [Plates and chronol. list, Eigene projekte mit ausführung.]
11¾″. pp.+pls. [Zürich & Bern. 1937 or -38.]
Presented by Mr. P. Morton Shand.

PROFESSIONAL PRACTICE

SWARBRICK (JOHN) 72.08 : 347.23] 696.98
*Easements of light.
*[Vol. iii :] A synopsis of modern practice and . . . simplified methods of measuring daylight *&c.*
9½″. Lond. : Batsford ; Manchester : Wykeham Press. 1938. 10s. 6d.
Presented (2) by the Author [F.].

BUILDING TYPES
(CIVIL)

PIRATH (CARL), *editor* 725.39
Aerodromes. Their location, operation and design. Trans. from the German. (Research Monograph of the Scientific Institute for Air Transport, Stuttgart.) (Air transport series.)
8¾″. viii+121 pp. Lond. : Pitman. 1938. 10s. 6d. R. & P.

ZINKEISEN (DORIS) 725.822.93 : 792
*Designing for the stage. (How to do it series, 18.)
10″. 80 pp. incl. pls. Lond. : Studio Ltd. [1938.] 7s. 6d. R. & P.

STETTLER (E.) 725.95 (494)
Die Rossgrabenbrücke über das Schwarzwasser (Kt. Bern). (Schweizerische Technische Zeitschrift, 16 Mar.)
pam. 11¾″. Zürich. 1933.

MAILLART (R.) 725.95 (494) : 693.55
Leichte eisenbeton-brücken in der Schweiz. (*From* Bauingenieur, *journal.*)
pam. 12½″. Berlin : Springer. 1931.
—Both presented by Mr. P. Morton Shand.

(RELIGIOUS)

726.5 (42.41 B)
CHURCH CONGRESS AND EXHIBITION, *Bristol*, 1938
Guide . . . [*With section* Bristol and its churches, by C. R. Hudleston.]
7¼″. Lond. 1938. 1s.
Presented by the Director of the Bristol Museum and Art Gallery.

726.5 (44 V)

DESCHAMPS (PAUL) *and* HAAB (FRANCOIS), *editors*
Vézelay. (Collection des cathédrales et des sanctuaires du moyen age.)
pfo. 15 text+pls Paris : "Tel." [1938.] 6s. P.

BULTEAU (*Abbé* 726.6 (44 C)
Description de la cathédrale de Chartres.
8o. Chartres & Paris. 1850.
Another copy. With original frontispiece and plates.
Presented anonymously.

PISTOLESI (ERASMO) 726.6 (45 R)+726.92 (45 R)
Il Vaticano descritto ed illustrato da E— P— con disegni . . . dirette [da] . . . Tommaso De Vivo.
8 vols. fo. 1829-39.
Presented by Mr. N. Tweddell [A.].

FANSTONE (R. M.) 726.75 (42.27 R)
The Abbey church of St. Mary and St. Ethelflæda, Romsey. The official guide.
4th ed. pam. 7¼″. [Romsey. 193—.] 3d.
Presented.

(EDUCATIONAL)

FINCHLEY, *Borough* Inf. file 727.8 (42.19 EF)
Opening of the district library . . . East Finchley . . . 1938.
pam. 11″. [Finchley. 1938.] R.

(DOMESTIC)

ROGERS (T. S.) 728.094
*Plan your house to suit yourself.
9″. (v)+282 pp. New York & Lond. : Scribner's. 1938. 12s. 6d. R. & P.
728.1 : 728.68

SOCIETY FOR IMPROVING THE CONDITION OF THE LABOURING CLASSES
Plans and suggestions for dwellings in agricultural districts, *&c.*
pam. 1a. 8o. Lond. [1849.] *Presented.*

BATSFORD (HARRY) *and* FRY (CHARLES) 728.68 (42)
* The English cottage. (British heritage series.)
8½″. viii+117 pp.+pls. Lond. : Batsford. 1938. 7s. 6d. R. & P.

COOK (A. R.) 728.84 (42.23 R)
A Manor through four centuries. [Roydon, East Peckham, Kent.]
8¾″. xi+194 pp.+pls. Oxford : U.P. 1938. 12s. 6d. P.

ALLIED ARTS AND ARCHÆOLOGY

CRICHTON (G. H. *and* E. R.) 73.033.5 (45) : 92 P
Nicola Pisano and the revival of sculpture in Italy.
8½″×6¾″. xiv+126 pp.+pls. Camb. : U.P. 1938. 15s. P.

GOLDSMITHS, *Worshipful Company of* 739.1.036.6 (064)
Exhibitions of modern silverwork . . . 1938. Catalogue.
7″. 64 pp.+pls. Lond. 1938. 1s. R.
902.6 (42) (06) (05)

LINCOLNSHIRE ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY
Reports and papers.
New series. Vol. i, part 1 (old series vol. 43, pt. 1). For . . . 1936. R.
Succeeding ASSOCIATED ARCHITECTURAL SOCIETIES (The Architectural and archæological societies of the Counties of Lincoln and Northampton), Reports and papers, *concluding with* vol. xlii, pt. ii, 1937.

WHEELER (R. E. M.) 902.6 : 7.031 (42.58 V)
A Prehistoric metropolis : the first Verulamium. (*From* Antiquity, June.)
pam. 9¾″. n.p. [1932.] 9d. *Presented.*

WHEELER (*Mrs.* R. E. M.) 902.6 : 7.032.7 (42.58 V)
Summary of the Verulamium excavations, 1931. (*Reprinted from* St. Albans and Herts. Architl. and Archæol. Soc. Trans.)
pam. 10″. [St. Albans. 1932.] 6d. *Presented.*

BUILDING SCIENCE

MCKAY (W. B.) 69 (084)
*Building construction.
Vol. i. ob. 8¾″×11½″. Lond. : Longmans, Green. 1938. 6s. R. & P.

MATERIALS

LAURSON (P. G.) *and* COX (W. J.) 691 : 620.1
Mechanics of materials.
9″. x+408 pp. New York : Wiley ; Lond. : Chapman & Hall. 1938. 18s. 6d. P.

BRITISH STANDARDS INSTITUTION 69 (083.74)
British standard specifications :
691.11 : 620.1
No. 373 B.s. methods of testing small clear specimens of timber. Revised ed. 1938. 2s. R.
691.598
No. 283 . . . for Prussian blue for paints.
Revised ed. 1938. 2s. R.
Nos. 303,318 . . . for green pigments for paints.
Revised ed. 1938. 2s. R.
No. 314 . . . for ultramarine blue for paints.
Revised ed. 1938. 2s. R.
Nos. 320,333 . . . for vermilion and red pigment for paints.
Revised ed. 1938. 2s. R.

CONSTRUCTION

BRITISH STANDARDS INSTITUTION 69 (083.74)
693.068.34
No. 78 . . . for cast iron pipes (vertically cast) for water, gas and sewage, *&c.*
Revised ed. 1938. 5s. R.

REYNOLDS (C. E.) 693.51
Concrete construction. (Concrete series.)
9½″. viii+510 pp. Lond. : Concrete Pubns. [1938.] 15s. P.

SANITARY SCIENCE, EQUIPMENT AND PROOFING

TEMPLE (H. E.) 697.33 : 725.511
Invisible embedded panel warming system for hospitals. An investigation on behalf of the Central Bureau of Hospital Information and the Invisible Panel Warming Association.
pam. 9″. n.p. [1938.]
Presented by the Bureau.

JORDAN (L. A.) *and* GAY (P. J.) 698.1 : 694.6
Bulletins :
Priming joinery timber. (Research Association of British Paint, Colour and Varnish Manufacturers, 26th Bulletin. Paint Research Station.)
pam. 8½″. Teddington. 1938. 1s. R.
699.895

ASSOCIATION OF ARCHITECTS, SURVEYORS AND TECHNICAL ASSISTANTS
*A Report on the design, equipment and cost of air-raid shelters. (*From* Architects' Jnl., 7 July.)
2nd ed. : A.R.P. A report, *&c.* (Sept.) 12½″. Lond. 1938. 1s. R.
Previous ed. to Loan Library.

HOME OFFICE 699.895 : 728
The Protection of your home against air raids.
pam. 7″. Lond. : H.M.S.O. 1938. 1d. R.

ENGINEERING

ENGINEERING ASSOCIATION OF CEYLON
Transactions for 1937.
1937. R.

Correspondence

ARCHITECTS AND WAR

The War Office,
London, S.W.1
29.9.38

To the Editor, JOURNAL R.I.B.A.

SIR,—I am commanded by the Army Council to say that the War Office has recently been approached by a number of Architectural Societies affiliated to your Institute, with the object of securing guidance as to whether it is more desirable for their members to volunteer for Air Raids Precautions work or to offer their services for use with the Royal Engineers in an emergency.

2.—I am to say that while this is a question which each individual must necessarily decide for himself, it is considered that gentlemen who are qualified architects and who are over 31 years and under 35 years of age might in future be asked to join the Officers Emergency Reserve, while gentlemen over 35 years of age might volunteer for Air Raids Precautions duties.

3.—The Officers Emergency Reserve has been instituted so that gentlemen with certain qualifications may, if they so wish, give an honourable undertaking to come up when called upon to do so in an emergency. A copy of the relevant regulations and a specimen application form are enclosed.

I am to point out, however, that it is not possible to guarantee that gentlemen registered in the Officers Emergency Reserve will necessarily be given commissions on mobilisation. Appointments will be made in accordance with the requirements at the time.

4.—I am to suggest that gentlemen under 31 years of age should be considered as potential volunteers for combatant service in the ordinary way.

5.—I should be grateful if you could transmit this information to your allied societies. A copy of this letter is being sent to all such societies which have addressed the War Office direct.

I am, Sir,
Your obedient Servant,
M. WIDDOWS

AIR-RAID SHELTERS

37 Norfolk Street,
Strand, W.C.2
18.10.38

To the Editor, JOURNAL R.I.B.A.

SIR,—The need for air-raid shelters is one that architects should study and on which they should give a lead to public authorities, and therefore I hope the Institute will follow up the recent Conference on Air Raid Precautions with a further contribution in the light of subsequent events.

With this in mind I would like to suggest the urgent importance of covered ways on a large scale under our streets, as probably the only practical method of providing the protection that is accessible for both pedestrians and the tenants of buildings.

Subways under pavements have much to recommend them for the purpose of air-raid shelters, and their value for other purposes in normal conditions is considerable. Among their other uses may be mentioned :—

1. Protection for pedestrians in bad weather.
2. Traffic subways at crossings.
3. Access ways to Tube stations and underground lavatories.
4. Access to pipe services.
5. Access for goods to premises.
6. Shop windows in suitable positions (as in Piccadilly Circus).

It should be possible to insist that all new buildings should provide their portion of subway as an air-raid shelter for their staff, the lines being laid down for the whole street of which they would form a part.

There are, of course, the usual reasons of expense against this or any other form of protection, but after our recent experiences I think the cost would be met without any serious difficulty if a long view is taken. The point is that architects might work out this scheme and others of a like nature, and recommend something really comprehensive to the authorities.

Yours faithfully,
H. AUSTEN HALL [*F.*]

MAILLART AND MOORE

77 Victoria Street,
Grimsby
29.10.38

To the Editor, JOURNAL R.I.B.A.

DEAR SIR,—I had not intended to trouble you or your readers further in the matter of modern sculpture, self-styled and self-elected. It were perhaps better to pass such antics in pitying silence : to advertise them by denunciation is just what the poor perpetrators would desire. Let them be content with their select coterie of admirers who resemble in mental calibre the fashionables in Hogarth's picture who gloat upon the foolish and obscene gestures of the Bedlamites.

But the enquiry by Mr. Ward in your issue of 17 October deserves courteous attention. Let him forgive me if I see no remotest analogy between structural art truly carried out and logically expressed in form, and the misrepresentational art of perverse abortions. That you sanction both by your *imprimatur*, and that both appear within the covers of our respectable JOURNAL is the nearest connection I can perceive. This reminds me of the similarity discovered by Hotspur between Monmouth and Macedon, namely, that both begin with an M.

I trust I may be pardoned for having missed certain beauties observed by Mr. Tomlins, namely, the sex-appeal of what we denounce in common. Even so do great conceptions fly unheeded over the heads of the unthinking crowd ! For my part, I can imagine it just barely possible that such a creature in the flesh might attract a depraved Hottentot or a lustful gorilla.

Forgive this length and bear with one last word. Let it be for us, the more humble-minded, to follow even at a distance in the footsteps of the great masters, and leave the wild men and the stunters to wander gibbering and drivelling in the wilderness.

Faithfully yours,
JOHN J. CRESSWELL [*F.*]

In so far as the JOURNAL's imprimatur is concerned in this matter of Mr. Henry Moore's sculpture, we can say first that we used the picture of his sculpture as a singularly apt illustration to Mr. Barton's argument—but also to avoid any idea that we are slipping

out of the *imprimatur* business by a back door we can add that the R.I.B.A. cannot of course battle for or against any particular artist, but for that very reason perhaps we lack that noble destructive self-assurance which can condemn as bedlamite and depraved and worse work by a sculptor whose reputation does not depend on the *imprimatur* given by an architectural paper but on the recognition given to his work by many of the finest critics and patrons of the art to-day.

It is worth remembering, perhaps, that Turner was accused of throwing a pot of paint in the face of his public, that the pre-Raphaelites, even, were denied entry to the Academy, and were called mad, and that Millais's *Christ in the House of His Parents* was described as vulgar and obscene. It is probably unnecessary to refer to Van Gogh, Cezanne, Picasso, because they are within the group that Mr. Cresswell condemns. Artists are compelled to suffer in silence to receive merely the posthumous honour of having their works used as academic yard-sticks to beat their successors.

We print Mr. Cresswell's letter, but we wonder a bit how patiently an architect would tolerate such phrases used about not his work only but his manners, morals and mentality.—EDITOR.

Obituaries

FRANK LISHMAN [*Ret. F.*]

Mr. Theodore Fyfe [*F.*] has sent the following memoir of Mr. Frank Lishman :—

Frank Lishman, Consulting Architect to the Government of the United Provinces, India, from 1912 to 1924, who died on 27 July 1938, was born in 1869 and was the son of the late William Lishman, of Herrington Hall, Herrington, County Durham. He was educated at Uppingham School and was afterwards articled for four years and was assistant for one year to the late J. H. Morton [*F.*], of South Shields. From 1891 to 1894, when he became an Associate, he was assistant to Messrs. J. and A. E. Bull, of Craven Street, Charing Cross. For four years he then acted as assistant to the late C. J. Ferguson, [*A.*], F.S.A., Honorary Consulting Architect to the Carlisle Diocesan Church Extension Society. In 1898 he took over the management of Mr. Ferguson's Carlisle office, and in 1900 the management of the London office with frequent visits to Carlisle. In London, Lishman worked for T. E. Collcutt and G. F. Bodley, among others, and in 1904 started practice on his own account at 12 Gray's Inn Square, carrying out country house work in Cumberland, Suffolk, Surrey and Ayrshire. Always an indefatigable worker, he took up water colour painting when business got slack. He held four exhibitions of his pictures, two of them in London galleries, and many of his friends are glad to possess examples of his particularly successful London and Italian views done in this period.

Lishman's appointment to India in 1912, when he took up his Fellowship, was a turning point in his career, as it enabled him, for the first time, to carry out important public work. He rapidly showed himself to be an energetic and capable official architect, and though many large schemes were shelved owing to " financial stringency," his design for the New High Court at Allahabad,* completed in 1916 at a cost of £105,000, had the great distinction of being used again by the Government of a neighbouring province. His unofficial work included the layout and block plans for the Hindu University at Benares, on a site of two square miles. It was certainly a matter of regret to many of his confrères in India that he was retired under the fifty-five years' rule.†

He was always proud of being a Durham man and to those who knew more than the surface of him, two things, characteristic of his northern descent, were outstanding—his sturdy independence of character and his real grit. It was no small thing for one retired from Government service after 12 years' strenuous work in the Indian climate to continue and progress in architectural design and in painting. He was as indefatigable in architectural competitions as he was before his official work began, and nearly achieved success when he was placed second, in 1928, for the extension of the Manchester Municipal College of Technology, a £170,000 building with elaborate requirements. In the field of water colour, on more than one occasion—including the present year—his pictures were hung at the Royal Academy, and his exhibition in 1925 at the Walker Gallery, Bond Street—when he exhibited over 80 subjects—was widely and favourably noticed both in the general and professional Press ; the Queen purchased a moonlight view of the Taj Mahal, a favourite building of Lishman's, of which he made many studies.

Lishman's practice, after his official retirement, was varied and fairly steady, and though he entered the Retired Fellowship list in 1935, he was working at his home in Wimbledon in full possession of his powers right up to the end. All his work was well and thoroughly done, and he had, in addition, a remarkably quick perception of any architectural problem that was set before him. Beneath a somewhat brusque exterior, he was the most kindly and courteous of men, and he will be missed by many both in his own and in other professions. His passing means the loss of one more architect who was resident in Gray's Inn from 1904 to 1912 ; a friendly group which included " Tommy " Pryce, Cecil Brewer and Bernard Webb, all now departed. He married in 1918 Kathleen Eva Gillmore, daughter of Captain Horatio Gillmore (78th Seaforth Highlanders), of Weston-super-Mare, who survives him.

* See *Builder*, 21 September 1917.

† See *Indian Engineering*, Vol. LXXVI, 7 and 8, 16 and 24 August 1924 (Calcutta).

JOSEPH FEARIS MUNNINGS [*A.*]

We regret to record the death in September 1937 of Mr. J. F. Munnings. He was born in Christchurch, N.Z., and after having been articled to Mr. Hurst Seager for four years, spent some time in various offices in New Zealand and London. In 1910 he was appointed consulting architect to the Government of Eastern Bengal and Assam. He was a partner in the firm of Power, Adam & Munnings, of Sydney, Australia.

GILBERT McGARVA [*L.*]

We regret to record the death on 10 August of Mr. Gilbert McGarva, who was born in 1877 and received his training in the office of Allan Stevenson, of Ayr.

Mr. McGarva practised in Glasgow, Shanghai and Peking. His principal architectural works include the Post Office in Moukden China, and several important buildings in Peking itself. The Banque de l'Indo-Chine, the Salt Industrial Bank, Peking Union Church, Salvation Army buildings and the Peking Palace of Varieties.

Notes

PRESIDENT'S ENGAGEMENTS

The President will attend the following dinners in the near future :—25 November, South-Eastern Society of Architects, Brighton (the first dinner to be held by this Society) ; 8 December, Edinburgh Architectural Association, Edinburgh. On 20 October he attended the dinner of the Berks, Bucks and Oxon Architectural Association, Oxford ; and the following night the dinner of the Devon and Cornwall Architectural Society, Torquay.

THE NEW BUILDING BYELAWS OF THE LONDON COUNTY COUNCIL

The R.I.B.A. Joint Sub-Committee of the Practice, Science and Town Planning, Housing and Slum Clearance Committees which has been appointed by the Council to consider the new L.C.C. Building Byelaws, with a view to their eventual revision, would be pleased to receive from members particulars of any cases of hardship resulting from these Byelaws and the various Regulations made in connection therewith.

VISIT TO THE FIRE TESTING STATION, ELSTREE

A visit to the Fire Testing Station at Elstree has been arranged by the Science Committee to take place on Thursday, 24 November, in the afternoon.

A train leaves St. Pancras Station at 2 p.m., and cheap day return tickets are available at 1s. 7d. (third class).

Those travelling by train will assemble outside Elstree Station at 2.40 p.m., when it is hoped that members travelling by car will meet the party.

All members of the Institute are invited to take part in the visit and to bring friends.

No tickets are required for the visit, but those intending to take part are requested to inform Mr. Walter Goodesmith, Hon. Secretary of the Science Committee (at the R.I.B.A.), *not later than Thursday, 17 November*, in order to facilitate the necessary arrangements at the Fire Testing Station.

The following itinerary for the visit has been arranged by the Fire Testing Station :

Fire Test Building :

1. Specimens in course of erection.
2. Floor and Wall Testing Furnaces.
3. Column under test in the Column Testing Furnace.
4. Control Room.

Fire Appliances Building :

5. Automatic Sprinklers of soldered and glass bulb pattern and multiple jet system.
6. Sprinkler valves and testing arrangements for Chemical Extinguishers.
7. Demonstration of extinguishment of oil fire by means of spray nozzle.

PUBLIC HEALTH SERVICES CONGRESS AND EXHIBITION

The Public Health Services Congress and Exhibition will be held in the Royal Agricultural Hall, London, from 14 to 19 November.

On Wednesday, 16 November, at 3 p.m., in Hall No. 3, a meeting will be held under the auspices of the R.I.B.A., when Mr. John Wilson [*F.*], Chief Architect, Department of Health for Scotland, will read a paper on " Alternative Methods of House Construction being carried out in Scotland." Dr. Thomas Adams [*F.*], has kindly consented to act as Chairman in place of Mr. E. C. Culpin [*F.*], Chairman of the L.C.C.

Members of the R.I.B.A. are cordially invited to attend the meeting and take part in the discussion. Tickets may be obtained on application to the Secretary, R.I.B.A.

THE HENRY L. FLORENCE BURSARY

A Sum of £350

Attention is called to the fact that the last date for the receipt of applications for the Bursary is 1 December 1938.

Candidates must be members of the Royal Institute of British Architects. The Bursary is offered in alternate years and is of the value of £350. The general object is the study of the Greek, Hellenistic and Byzantine architecture of the Mediterranean basin with a view to making available for architects, from an architectural standpoint, the results of the more recent archæological researches. Preference will be given to the eastern half of the Mediterranean.

The holder of the Bursary is required to spend a period of not less than six months in travel and research.

Applications must be made in writing, accompanied by testimonials, and a brief outline of the candidate's intention regarding his proposed studies must be included. Candidates should state their qualifications, age, architectural training, works executed and publications, if any. Applications should be sent so as to reach the Secretary R.I.B.A., 66 Portland Place, London, W.1, on or before 1 December 1938.

R.I.B.A. (ARCHIBALD DAWNAY) SCHOLARSHIPS, 1938-1939

In accordance with the terms of the will of the late Sir Archibald Dawnay, the Royal Institute of British Architects have awarded three Scholarships of £50 for the academical year 1938-1939, one to Mr. J. R. M. Poole, of the School of Architecture, The Polytechnic, Regent Street, London ; one to Mr. T. E. Fennell, of the School of Architecture, King's College, Newcastle-on-Tyne ; and the third to Mr. J. B. Hall, of the School of Architecture, Edinburgh College of Art.

Mr. R. D. Hammett, of the School of Architecture, The Architectural Association, London ; Mr. G. F. Horsfall, of the Liverpool School of Architecture, University of Liverpool ; and Mr. N. B. Dant, of the School of Architecture, The Polytechnic, Regent Street, London, who were awarded Scholarships of £50 each for the academical year 1937-1938, have been granted renewals of their Scholarships for the year 1938-1939.

The Scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

EXAMINATIONS FOR THE OFFICES OF DISTRICT SURVEYOR AND BUILDING SURVEYOR

At the R.I.B.A. Statutory Examination for the office of District Surveyor in London held on 5, 6 and 7 October 1938, two candidates presented themselves, and the following candidate was successful :—

Mr. Stanley J. Nunn.

At the R.I.B.A. Examination for the office of Building Surveyor under Local Authorities held on 5, 6 and 7 October 1938, seven candidates presented themselves and the following were successful :—

Mr. C. W. Bucknall, Mr. E. T. Edwards, Mr. F. D. Entwisle, Mr. G. W. Gelson, Mr. B. G. Phillips, Mr. Robert Pope.

FINAL EXAMINATION TESTIMONIES IN DESIGN

The list and programmes of the Final Examination alternative problems in design for the year ending 31 December 1939 has been published and can be obtained free on application to the R.I.B.A.

The subjects are: No. 32, A Technical School in a provincial town ; No. 33, A Child Welfare Clinic ; No. 34, A Youth Hostel ; No. 35, Municipal Offices in a small town ; No. 36, A Housing scheme.

The dates for submission of designs are: No. 31, 28 February ; No. 32, 28 April ; No. 33, 30 June ; No. 34, 31 August ; No. 35, 31 October ; No. 36, 29 December.

COURTAULD INSTITUTE LECTURES ON ARCHITECTURE

Mr. J. Summerson [*A.*] will lecture on 14, 18, 24, and 28 November on Gothic Architecture. These lectures begin at 5.30 p.m., and the fee for each lecture is 2s. 6d. Short courses are charged for at the same rate.

Application for tickets should be made to the Registrar, Courtauld Institute of Art, 20 Portman Square, W.1.

SOCIAL COMMITTEE ACTIVITIES

SOCIAL COMMITTEE PARTY

The Annual Party arranged by the Social Committee which all members and Students are invited to attend will be held at the R.I.B.A. on Monday, 12 December, from 8.30 p.m. to 1 a.m.

The programme this year includes a Camera Club Exhibition, a Dance, a Play and a Games Room. The details of these entertainments will be published in the next JOURNAL.

Applications for tickets at 3s. per head should be made to the Secretary R.I.B.A. Members are reminded that as accommodation is strictly limited only two tickets can be issued to each Member or Student, and are allotted on the " first come, first served " basis.

MUSIC GROUP

A concert has been organised by the Music Group for Friday, 25 November, at 8.30 p.m. This will be in the nature of an Anglo-Baltic evening, and it is hoped that one or more of the Ministers for the Baltic countries will be present.

VITYA VRONSKY, *Pianist.*
LAELIA FINNEBERG, *Soprano.*
VICTOR BABIN, *Pianist.*
LAWRENCE HOLMES, *Baritone.*

The programme will include songs for soprano and baritone, and, among other items, an arrangement for two pianos of the Polovtsian Dances from " Prince Igor."

No tickets are required, but programmes will be sold at 1s. Further details will be published in the JOURNAL for 21 November.

R.I.B.A. DANCE CLUB

The following dates have been arranged for dances at the R.I.B.A. during the current session :—Friday, 11 November 1938 ; Friday, 9 December 1938 ; Friday, 3 February 1939 ; Friday, 21 April 1939.

The dances will start at 9 p.m. and finish at 1 a.m. The price of tickets will be as follows:—Membership tickets : £1 15s. (i.e., a double ticket for the series of four dances). Individual tickets for each dance, 6s. Not more than ten tickets will be issued to any one person.

Applications must be accompanied by a remittance for the appropriate amount, and applications cannot be made by telephone. Applications for tickets should be sent as soon as possible to Mr. R. W. H. Robertson, Clerk to the Dance Club, at the R.I.B.A. Cheques and postal orders to be made payable to the R.I.B.A. Dance Club.

MEMBERS OF THE SOCIAL GROUP COMMITTEES

The Social Committee have decided to publish annually in the JOURNAL the names of the Committees of the various social groups. The names of the members of the Social Committee are, of course, printed in the Kalendar.

The Committees of the groups are as follows :—

(1) CAMERA CLUB.
Mr. F. R. Yerbury (Chairman), Mr. Eric Jarrett (Hon. Treasurer), Mr. Harman A. Bowen (Hon. Portfolio Secretary), Mr. A. L. Hall (Dark Room Equipment), Mr. Bryan P. Westwood, Mr. Denis Winston, Miss Alma J. Dicker (Hon. Secretary).

(2) DANCE CLUB.
Mr. H. Chalton Bradshaw (Chairman), Mr. H. A. J. Darlow, Mr. A. B. Knapp-Fisher, Mr. Rees Phillips, Mr. L. H. B. Roberts, Mrs. J. Alan Slater, Miss Pamela Slater, Mr. John Mackay (Hon. Secretary), Mr. R. W. H. Robertson (Clerk to the Committee).

(3) DRAMATIC SOCIETY.
Mr. Gilbert F. Kendrew (Chairman), Miss Alma J. Dicker (Hon. Treasurer), Miss E. Caldicott, Mr. Laurence King, Miss Carmen Smith, Mr. John Terry, Mrs. Joan Tomlins, Miss G. W. M. Leverkus (Hon. Secretary).

(4) MUSIC CLUB.
Mrs. H. V. Lanchester (Chairman), Mrs. Patrick Abercrombie, Mrs. H. Chalton Bradshaw, Mr. P. W. Pocock, Mr. F. E. Tudor, Miss Alice Ashley (Hon. Secretary).

Membership Lists

ELECTION: 24 OCTOBER 1938

In accordance with the terms of Byelaws 10 and 11, the following candidates for membership were elected at the Council Meeting held on Monday, 24 October 1938.

As Hon. Corresponding Members (2)

FAHMY: Moustapha, Cairo, Egypt.
SARTORIS: Alberto, Milano, Italy.

As Fellows (7)

BOX: Charles Wilfrid [*A.* 1914].
CHECKLEY: George [*A.* 1922].
HITCH: John Oliver Brook [*A.* 1914].
MACKENZIE: Henry Blinman [*A.* 1904].
WEEKES: Norman Barnet [*A.* 1921], Sydney, New South Wales.
And the following Licentiates who have passed the qualifying Examination:—
GREENWOOD: Harold.
TRAYLOR: William Morgan.

As Associates (38)

BEATTY: (Miss) Bertha Maud [Passed five years' course at the Architectural Association. Exempted from Final Examination].
BELLAMY: Deryck Thomas [Passed five years' course at the Architectural Association. Exempted from Final Examination].
BUNNING: Walter Ralston [Passed a qualifying Examination approved by the Royal Australian Institute of Architects].
CARTER: John David Armishawe [Passed five years' course at the Architectural Association. Exempted from Final Examination], Dorchester.
CARVER: Humphrey Stephen Mumford [Passed five years' course at the Architectural Association. Exempted from Final Examination], Ontario, Canada.
COLLINS: John Barrow, B.A.Arch. [Passed a qualifying Examination approved by the Institute of South African Architects], Stellenbosch, Cape Town.
DENNEY: John Matthew [Final], Weymouth, Dorset.
EASTON: Kenneth [Passed five years' course at King's College (University of Durham), Newcastle-on-Tyne. Exempted from Final Examination].
EGAN: John Edward [Passed a qualifying Examination approved by the Institute of South African Architects], Cape Town.
GRIFFITHS: Higford Singer [Passed five years' course at the Architectural Association. Exempted from Final Examination].
HUMPHREYS: Arthur Frederick [Passed five years' course at the School of Architecture, Victoria University, Manchester. Exempted from Final Examination], Stockport, Cheshire.
HUTCHESON: (Mrs.) Creina Marian [Passed five years' course at the Architectural Association. Exempted from Final Examination].
JOHNSTON: Reginald William, B.A.Cantab. [Passed five years' joint course at the School of Architecture, Cambridge University and the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], Edinburgh.
KINNEAR: Ian Brown, Dip.Arch.(Edin.) [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], Dundee.
KNOX: Laurence Alexander [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], Canberra, F.C.T., Australia.
KOTASTHANE: Krishnarao Moreshwar [Final], Fort, Bombay.
MCKEE: David Law [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Rhyl, N. Wales.
MCMORLAND: John Adam, Dip.Arch.(Edin.) [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination].
MACK: A. Henry, B.Arch. [Passed a qualifying Examination approved by the Royal Australian Institute of Architects].
MEYRICK: Stanley [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Sheffield.
ORR: Harold R. W. [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], Bletchley Bucks.
PARELKAR: Khanderao Anandrao [Final], Fort, Bombay.
PARKER: (Miss) Anne Winifred Robertson [Passed five years' course at the Architectural Association. Exempted from Final Examination].
PEARCE: Derrington Stanley [Passed five years' course at the Architectural Association. Exempted from Final Examination].
PICKEN: Ian Devon Fairlie [Passed five years' course at the Architectural Association. Exempted from Final Examination].
RUXTON: George Patrick Fitzherbert, B.A. [Passed five years' course at the Architectural Association. Exempted from Final Examination].
SHEPHEARD: Peter Faulkner, B.Arch.Lvpl. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination].
SHEPHERDSON: Douglas Banks, B.Arch.(Sydney) [Passed a qualifying Examination approved by the Royal Australian Institute of Architects].
SIMPSON: Ian Begg [Passed five years' course at the Architectural Association. Exempted from Final Examination].
SMITH: Wallace Finlay [Passed a qualifying Examination approved by the Royal Australian Institute of Architects].
TALL: (Miss) Marjorie [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination].
TROUP: (Miss) Margaret MacDonald [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], Pretoria, South Africa.
VERITY: Terence [Passed five years' course at the Architectural Association. Exempted from Final Examination].
WEARING: John Keevil [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination].
WILLIES: Walter Ivor [Passed a qualifying Examination approved by the Institute of South African Architects], Durban, S. Africa.
WILLINGTON: Thomas Haley [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], Neutral Bay, New South Wales.
WILLIS: George M., Dip.Arch.(Cape Town) [Passed a qualifying Examination approved by the Institute of South African Architects], Claremont, Cape Town.
ZAMMIT: Arthur John [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], Malta.

As Licentiates (8)

CONCANNON: Thomas Arthur Lawrence.
FOSTER: John, Grimsby, Lincolnshire.
HARMAN: Edward John, P.A.S.I.
HOMER: William Eley, Brierley Hill, Staffs.
JENNINGS: Henry, Brierley Hill, Staffs.
MEMBERY: Ernest George.
TIPPER: James Samuel.
WOLTERS: Leslie Frank Ian.

ELECTION: 5 DECEMBER 1938

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 5 December 1938. The names and addresses

of the candidates, with the names of their proposers, found by the Council to be eligible and qualified in accordance with the Charter and Byelaws are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Thursday, 17 November 1938.

As Hon. Corresponding Members (3)

CRET : PAUL PHILIPPE, Fellow of the American Institute of Architects, Hon. Sc.D., University of Pennsylvania, N.A., Officier de la Legion d'Honneur, Gold Medallist of the American Institute of Architects ; 516 Woodland Terrace, Philadelphia, Pa., U.S.A. Proposed by the Council.

INGHAM : CHARLES TATTERSALL, F.A.I.A., Secretary of the American Institute of Architects, The Octagon, 1741 New York Avenue, Washington, D.C. ; 917 Bellefonte Street, Pittsburgh, Pennsylvania, U.S.A. Proposed by the Council.

KIMBALL : FISKE, A.I.A., Lemon Hill, Fairmount Park, Philadelphia, Pa., U.S.A. Proposed by the Council.

As Hon. Associate (1)

COPPOCK : RICHARD, L.C.C., 20 Blenkarne Road, Wandsworth Common, S.W.11. Proposed by the Council.

As Fellows (13)

BROWN : GEORGE TALBOT [*A.* 1922], 51 Fawcett Street, Sunderland ; 2 Ashbrooke Crescent, Sunderland. Proposed by Thomas R. Milburn, Geo. H. Gray and R. Norman Mackellar.

MCKAY : JOHN ROSS [*A.* 1920], 4 Melville Street, Edinburgh ; 11 Darnaway Street, Edinburgh. Proposed by T. Forbes MacLennan, Reginald Fairlie and W. J. Walker Todd.

PASSMORE : HERBERT [*A.* 1892], 3 Great College Street, Westminster, S.W.1 ; 17 Cornwall Gardens, S. Kensington, S.W.7. Proposed by Frank L. Pearson, H. P. Burke Downing and Sir Charles A. Nicholson.

SILCOCK : HUBERT SPENCER [*A.* 1925], 66 Rodney Street, Liverpool, 1 ; "The Hollies," Mount Pleasant, Oxton, Birkenhead. Proposed by Professor Lionel B. Budden, Leonard Barnish and T. Taliesin Rees.

THEARLE : HERBERT [*A.* 1925], 66 Rodney Street, Liverpool, 1 ; 3 Mount Street, Liverpool, 1. Proposed by Professor Lionel B. Budden, Leonard Barnish and T. Taliesin Rees.

THEOBALD : ROBERT COURTENAY, B.A.Lond. [*A.* 1926], 10 Conduit Street, W.1 ; 4 Windmill Hill, Hampstead, N.W.3. Proposed by Maxwell Ayrton, Maurice E. Webb and Stanley Hamp.

TODD : HAROLD EDGAR [*A.* 1916], 27 Orchard Street, Bristol ; "Trocester," Cardigan Road, Henleaze, Bristol. Proposed by W. H. Watkins, C. F. W. Dening and B. F. G. Wakefield.

WYKES : HERBERT TOM [*A.* 1927], Town Hall, Catford, S.E.6 ; 79 Daneby Road, Catford, S.E.6. Proposed by W. H. Robinson, W. Beswick and E. G. Bax.

The following Licentiates who have passed the qualifying Examination :—

COMPER : JOHN B. SEBASTIAN, 33 Portland Place, W.1. Proposed by Arthur T. Bolton, W. A. Forsyth and Edward Maufe.

COOMBS : CLIFFORD MORRIS, Deputy County Architect, County Buildings, Stafford ; 31 Crescent Road, Rowley Park, Stafford. Proposed by K. L. Murray, A. Leonard Roberts and A. C. Bunch.

IONIDES : BASIL, 28 Cork Street, W.1 ; 49 Berkeley Square, W.1. Proposed by Professor A. E. Richardson, Professor C. H. Reilly and Walter H. Godfrey.

And the following Licentiates who are qualified under the provisions of Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925 :—

BLANC : LOUIS, 10 New Burlington Street, W.1 ; 23B North Hill, Highgate, N.6. Proposed by E. P. Wheeler, L. Sylvester Sullivan and Sydney Tatchell.

STIENLET : PASCAL JOSEPH, "Harvey House," Saville Row, Newcastle-upon-Tyne, 1 ; "Causey House," Elmfield Road, Newcastle-upon-Tyne, 3. Proposed by Lieut.-Colonel A. K. Tasker, Percy L. Browne and C. A. Harding.

As Associates (131)

ALLEN : WILLIAM ALEXANDER, B.Arch.(Hons.) Manitoba [Passed five years' course at the Department of Architecture, University of Manitoba. Exempted from Final Examination], H.M. Building Research Station, Garston, near Watford. Proposed by H. P. G. Maule, Henry V. Ashley and Louis de Soissons.

APPLEGARTH : ARNOLD [Final], Station House, Seghill, Dudley, Northumberland. Proposed by F. N. Weightman, R. Mauchlen and Geo. H. Gray.

BAILEY : HECTOR OSWALD [Final], Field End, Boars Hill, Oxford. Proposed by A. Buller West, Alec Nisbet and T. Lawrence Dale.

BAKER : LESLIE WREFORD [Final], 147 Field End Road, Ruislip. Proposed by Thomas Rayson, L. Stuart Stanley and R. Fielding Dodd.

BARBER : ANTHONY GERALD [Final], County Architect's Office, West Sussex County Council, Chichester ; 2 St. Colmans Avenue, East Cosham, Portsmouth. Proposed by A. C. Townsend, C. G. Stillman and J. W. Walmisley.

BATES : HAROLD SELWYN [Final], London House, Guilford Street, W.C.1. Proposed by G. Grey Wornum, Arthur W. Kenyon and O. Howard Leicester.

BELLAMY : ALBERT ALEXANDER [Final], 85 Union Road, Clapham, S.W.4. Proposed by T. P. Bennett, Edwin Williams and W. H. Gunton.

BENNETT : ARCHIBALD ERNEST [Passed five years' course at the Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination], 4 Hornsey Rise Gardens, N.19. Proposed by R. Leslie Rollo, Geo. Angus Mitchell and Alex. T. Scott.

BIDWELL : HUGH DRYDEN [Final], c/o Messrs. Parrott & Dunham, 9 George Street West, Luton, Beds. ; 7 Willian Way, Letchworth. Proposed by Robert Bennett, Joseph Addison and George Coles.

BIGGAR : GORDON BUCHANAN [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], 40 Riverside Road, Glasgow, S.3. Proposed by T. Harold Hughes, William J. Smith and T. G. Gilmour.

BLACKBURN : JACK [Final], 30 The Crescent, Old-Hill, Staffs. Proposed by L. Stuart Stanley and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

BLACKMAN : MERVYN HENRY GERALD [Final], 5 Montgomerie Road, Southsea, Hampshire. Proposed by A. C. Townsend, Ingalton Sanders and Ernest Bird.

BLEASE : LESLIE [Final], 92 Mount View Road, Stroud Green, N.4. Proposed by L. Stuart Stanley, Professor A. E. Richardson and T. P. Bennett.

BOOTH : FREDERICK HARRY [Final], 3 Carlton Row, Trowbridge, Wiltshire. Proposed by T. Walker, George H. Widdows and H. V. Hague.

BRAGG : STANLEY EDWARD [Final], "Afelstan," 27 Coval Avenue, Chelmsford, Essex. Proposed by Joseph Addison, Edwin Williams and William Walter Wood.

BRIGGS : ALAN ARTHUR [Special Final Examination], 33 The Ridings, W.5. Proposed by William H. Hamlyn, Victor Hea and J. Herbert Pearson.

BRIGHTLING : SAMUEL CUTHBERT [Passed five years' course at Birmingham School of Architecture. Exempted from Final Examination], "Fletchers Hotel," 80-81 Guilford Street, W.C.1. Proposed by George Drysdale, A. C. Bunch and Robert Atkinson.

BROADBENT : FRANCIS GEORGE [Final], 11 Bridge Avenue Mansions, W.6. Proposed by Robert Atkinson, H. S. Goodhart-Rendel and A. F. B. Anderson.

BROADBENT : RONALD [Final], 12 Rising Lane, Hollins Green, Oldham. Proposed by Arthur Brocklehurst, Ernest Simister and Herbert Heywood.

BROCKLEBANK : RICHARD PHILIP ROYDS [Passed five years' course at the Architectural Association. Exempted from Final Examination], Earlywood Edge, Ascot, Berks. Proposed by C. S. White, Verner O. Rees and A. W. Kenyon.

BROWN : VINCENT [Final], "Danehurst," 20 Earlsway, Curzon Park, Chester. Proposed by F. Anstead Browne, S. Wilkinson and Arthur T. Nicholson.

BROWN : WILLIAM DUDLEY [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], 23 Moorland Avenue, Hyde Park, Leeds, 6. Applying for nomination by the Council under the provisions of Byelaw 3 (d).

BURDEN : STANLEY ERNEST [Final], 145 Marlborough Road Oxford. Proposed by Thomas Rayson, Harold S. Rogers and N. W. Harrison.

BUTLER : JOHN GEOFFREY, B.Arch., N.U.I. [Passed five years' course at the School of Architecture, University College, Dublin. Exempted from Final Examination], 42 Bentley Road, Liverpool ; 82 Merrion Square, Dublin. Proposed by Professor R. M. Butler, Sir Arnold Thornely and H. L. Thornely.

BYNE : ARTHUR CECIL [Special Final Examination], "Craigvale," Penstone Park, Lancing, Sussex. Proposed by Harold G. Turner, Chas. H. Wallis and L. Stuart Stanley.

CAMERON : IAN FYFE [Passed five years' course at Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination], 4 Leinster Gardens, W.2. Proposed by John G. Marr, Hugh S. Tiffin and John H. Markham.

CARPENTER : LEONARD JOHN [Special Final Examination], 6 The Gardens, Pinner, Middlesex. Proposed by Frank T. Dear, J. M. Sheppard and W. B. Stedman.

CHOATE : KENNETH HAIGH [Final], 8 Kimberley Road, Leicester. Proposed by C. Gustave Agate, L. Stuart Stanley and Arthur J. Wood.

CLARKE : DAVID [Final], 2 Penthouse Cottages, Pevensey, Sussex. Proposed by John D. Clarke, Alwyn Underdown and Stanley C. Ramsey.

CLEMENTSON : JOHN GEORGE [Final], 12 The Grove, North End, Durham City. Proposed by F. Willey, Norman Richley and L. Stuart Stanley.

CORBETT : GEORGE UVEDALE SPENCER [Final], 11 Neale Street, Ipswich. Proposed by A. Blomfield Jackson, Thomas Henry Lyon, Howard Robertson and J. Murray Easton.

COX : GEOFFREY [Final], 1 Kingscote Road, Edgbaston, Birmingham. Proposed by Baron C. S. Underhill, Herbert T. Buckland and William Haywood.

DANIELL : JAMES HENRY [Final], 17 Peter Avenue, Willesden, N.W.10. Proposed by Arthur J. May, P. V. E. Mauger and R. Dann.

DARLOW : HENRY ARTHUR JACK [Final], 2a Colinette Road, S.W.15. Proposed by Christian Barman, Edwin Williams and Edward Maufe.

DENMAN : JOHN BLUET [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 27 Queen's Road, Brighton, 1, Sussex. Proposed by Professor A. E. Richardson, Professor C. H. Reilly and John L. Denman.

DIXON : CHARLES JOHN [Final], 101 Wood Lane, Harborne, Birmingham, 17. Proposed by John W. Wilson, John B. Surman and L. Stuart Stanley.

DOWN : ALBERT HENRY [Final], 8 Lime Walk, Littleover, Derby. Proposed by Duncan W. Clark, George H. Widdows and L. Stuart Stanley.

ELLIS : JOHN BASIL [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 8 Elm Grove, Eccleston Park, Prescot, Lancs. Proposed by Professor Lionel B. Budden, Edward R. F. Cole and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

FORGE : JAMES WILLIAM LINDUS [Final], Green Gables, Cavendish Road, Weybridge, Surrey. Proposed by F. Lindus Forge, H. Yolland Boreham and J. Murray Easton.

FOSTER : JACK STROUD [Final], 19 Courcy Road, Hornsey, N.8. Proposed by L. Stuart Stanley, Ian B. M. Hamilton and W. J. Palmer-Jones.

FOUNTAIN : EDGAR WALTER [Final], The Vineries, Cosby, Leicester. Proposed by George Nott, William Keay and E. J. Williams.

FRANKS : RONALD HERBERT [Final], 23 Alexandra Park Road, Muswell Hill, N.10. Proposed by Thos. E. Scott, Harold G. Cherry and T. P. Bennett.

GASKELL : ERIC [Special Final Examination], 16 Upton Drive, Mill Lane, Upton-by-Chester. Proposed by F. Anstead Browne, W. A. Johnson and E. M. Parkes.

GOLD : BERNARD [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 54 St. James's Road, West Croydon, Surrey. Proposed by Professor A. E. Richardson, Joseph Addison and Henry A. Douglass.

GOLD : (MISS) PHYLLIS DOREEN [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], Home Farm, Beechwood, Berkswell, near Coventry. Proposed by A. C. Bunch, George Drysdale and John B. Surman.

GOLDFINCH : DONALD ALBERT [Final], 9 Carisbrooke Drive, Bitterne, Southampton. Proposed by L. Stuart Stanley, S. H. Loweth and Sir George H. Oatley.

HALSTEAD : JOHN GREENWOOD [Passed five years' course at the Architectural Association. Exempted from Final Examination], 27 London Road, Horsham, Sussex. Proposed by Charles R. B. Godman and the President and Hon. Secretary of the Architectural Association under the provisions of Byelaw 3 (*b*).

HANCOCK : THOMAS HERBERT HUBERT [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 28 Loddiges Road, E.9. Proposed by L. Stuart Stanley, Professor A. E. Richardson and Lionel F. Crane.

HARRISON : ERNEST RONALD, Dip.Arch. [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination], c/o Messrs. Leslie Grahame Thomson & Connell, 6 Ainslie Place, Edinburgh ; 26 Aytoun Road, Glasgow, S.1. Proposed by T. Harold Hughes, William J. Smith and William Ross.

HAWKINS : GEORGE HESLOP [Final], 10 Grasmere Terrace, Gateshead, Co. Durham. Proposed by T. A. Page, Percy L. Browne and G. E. Charlewood.

HAYES : FRANCIS OSWALD [Final], "Nevern," Valley Close, Withdean, Brighton. Proposed by G. D. Gordon Hake, John L. Denman and A. J. McLean.

HEPPENSTALL : ERNEST ALLAN [Passed five years' course at Leeds School of Architecture. Exempted from Final Examination], 205 Bradford Road, East Ardsley, near Wakefield, Yorks. Proposed by T. Butler Wilson, G. H. Foggitt and F. L. Charlton.

HILL : JOHN DALTON [Final], 77 Leigh Hill, Leigh-on-Sea. Proposed by Niel Martin-Kaye, D. H. Burles and J. H. Forshaw.

HODGSON : EDWARD [Final], 32 Bramham Gardens, S.W.5. Proposed by Wm. A. Ross, H. P. G. Maule and S. D. Meadows.

HOPKINS : WILLIAM ALBERT LARCHE [Final], 10 Y Groes, Rhiwbina, Cardiff. Proposed by C. B. Willcocks, W. James Nash and W. S. Purchon.

HOWARD : FRANCIS AYLMER [Final], Victor House, Portman Square, W.1. Proposed by L. Stuart Stanley, W. Curtis Green and Philip Hardy.

HOWRIE : ROBERT JOHN [Passed five years' joint course at the Nottingham School of Architecture and the Department of Architecture, University of Sheffield. Exempted from Final Examination], 22 Burton Street, Loughborough ; Borough Engineer and Surveyor's Office, Town Hall, Barnsley. Proposed by Stephen Welsh, F. W. C. Gregory and J. Stockdale Harrison.

HUGHES : NORMAN CEDRIC [Final], 85 Oak Tree Road, Tilehurst, Reading, Berks. Proposed by Thos. E. Scott, L. Stuart Stanley and T. P. Bennett.

HUNT : GLENTON DE GLENTON [Special Final Examination], Beechenlea Lane, Swanley Village, Kent. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

HUNTER : GEORGE IRVING [Passed five years' course at the Glasgow School of Architecture. Exempted from Final Examination],

44 Bulstrode Avenue, Hounslow, Middlesex. Proposed by T. Harold Hughes, Norman A. Dick and William J. Smith.

JAMES : ERNEST EDWIN [Final], 67 Avenue Road, Swindon, Wilts. Proposed by A. E. Beswick, L. Stuart Stanley and applying for nomination by the Council under the provisions of Bye-law 3 (*d*).

JORDAN : ERNEST DENNIS [Final], Hinckley Road, Earl Shilton, Leicester. Proposed by J. Stockdale Harrison, George Nott and Walter Brand.

KELLY : GEOFFREY SCOTT [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], 15 Constance Road, Edgbaston, Birmingham. Proposed by John B. Surman, William T. Benslyn and George Drysdale.

KENCHINGTON : (MISS) MARGARET FRANCES [Final], Ridgewood, Nancy Downs, Oxhey, Herts. Proposed by F. L. Jackman, W. J. Gomm and James F. Howes.

KENNEDY : THOMAS BRIAN [Final], Brunton House, Scotforth Road, Lancaster. Proposed by Frank Richardson, S. G. Eldred and Charles B. Pearson.

KIRKWOOD : JAMES SMITH [Passed five years' course at Glasgow School of Architecture. Exempted from Final Examination], "Karleen," Roman Road, Bearsden, Dumbartonshire. Proposed by T. Harold Hughes, William J. Smith and William Ross.

LAMB : ANTONY RAYMOND [Passed five years' course at Birmingham School of Architecture. Exempted from Final Examination], Nailsbourne, Taunton, Somerset. Proposed by George Drysdale, Frank H. Shayler and A. J. Toomer.

LEATHEM : JAMES WARDLE [Final], 13 Hayward Avenue, Seaton Delaval, Northumberland. Proposed by Geo. H. Gray, J. Wilson Hays and William Stockdale.

LEE : CHARLES [Final], 178 Windermere Avenue, Wembley, Middlesex. Proposed by Joseph Addison, Edwin Williams and A. W. Blomfield.

LIDBETTER : HUBERT MARTIN [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 15 Thornton Way, N.W.11. Proposed by H. Lidbetter, Professor A. E. Richardson and Edward Maufe.

LILLEY : VICTOR GEORGE [Final], Norfolk House, Station Road, March, Cambs. Proposed by J. L. Carnell and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

LOCK : SIDNEY CHARLES [Final], 60 Buckland Road, Maidstone. Proposed by S. H. Loweth, W. H. Robinson and L. Stuart Stanley.

LUXTON : HORACE NEWCOMBE [Final], 36 Addiscombe Avenue, Croydon. Proposed by Gerald Unsworth, J. A. Lucas and W. T. Curtis.

LYON : GEORGE WILLIAM [Final], "The Bungalow," Landress Lane, Beverley, E. Yorks. Proposed by G. Dudley Harbron Allanson Hick and R. G. Roberts.

MACCONVILLE : DAVID GORDON [Final], 9 Clovelly Avenue, Leigh, Lancs. Proposed by Ernest Prestwich, Percy Thomas and H. Cook.

MADDISON : WILLIAM GEOFFREY [Passed five years' course at the Architectural Association. Exempted from Final Examination], Leyland House, Aylmer Road, E. Finchley, N.2. Proposed by Henry V. Ashley, J. Alan Slater and A. H. Moberly.

MANBY : ROY MARTIN, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], c/o Louis de Soissons, Esq., Blue Ball Yard, S.W.1. Proposed by Professor Lionel B. Budden, F. X. Velarde and Louis de Soissons.

MATHERS : (MISS) MARGARET ROBERTSON [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], 62 Nethergate, Dundee. Proposed by Chas. G. Soutar, Wm. Salmond and P. H. Thoms.

MAUDSLEY : JOHN ALAN [Final], 166 Hanover Road, Kensal Rise, N.W.10. Proposed by Charles B. Pearson, Evan Morgan and L. Stuart Stanley.

MAWER : ERIC DOUGLAS [Special Final Examination], 94 Park Street, Hull. Proposed by G. Dudley Harbron, Allanson Hick and J. A. Fletcher.

MILES : JOHN VERNON MANNERS [Passed five years' course at the Architectural Association. Exempted from Final Examination], High Warren, Theydon Mount, Epping. Proposed by R. Furneaux Jordan, Verner O. Rees and S. E. Dykes Bower.

MILLS : DAVID BUTLER [Final], 6 Eccleston Street, S.W.1. Proposed by Joseph Addison, Edwin Williams and T. Frank Hawkes.

MOFFAT : JOHN ALLAN [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], "Wartnaby," 62 Highway Road, Leicester. Proposed by Professor Lionel B. Budden, J. Ernest Marshall and Ernest G. Allen.

MORRIS : HAROLD BROADLEY [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Oak View, Rayner Road, Brighouse, Yorks. Proposed by Professor Lionel B. Budden, Norman Culley and Victor Bain.

MOSS : GEOFFREY [Final], c/o Messrs. Sandy & Norris, 134 Newport Road, Stafford ; "Talgarth," Portland Road, Eccles, Manchester. Proposed by Sydney Moss, Peter Cummings and E. Bower Norris.

MULVEY : WILLIAM JOHN [Final], 7 Hillmarton Road, Holloway, N.7. Proposed by Thos. E. Scott and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

NASH : GORDON DOUGLAS [Final], 22 Okehampton Close, Friern Park, Finchley, N.12. Proposed by T. P. Bennett, G. G. Macfarlane and A. W. Blomfield.

NICHOLLS : HERBERT EDWARD [Final], 2 Southernhay West, Exeter. Proposed by John Bennett, J. Challice and Capt. E. E. Kemeys-Jenkin.

OAK : GEORGE WILLIAM [Special Final Examination], 41 Crosby Road, Northallerton, Yorks. Proposed by Arthur Brocklehurst, J. R. White and L. Stuart Stanley.

PEACE : DAVID BRIAN [Final], 40 Woodland Way, N.W.7. Proposed by Stephen Welsh, J. Hubert Worthington and William H. Hamlyn.

PEARCE : ERIC [Final], "Derring," Bois Hall Road, Addlestone, Surrey. Proposed by W. Fraser Granger, James S. Gibson and Julian Leathart.

PICKETT : CHARLES JOHN [Final], 613 Finchley Road, Hampstead, N.W.3. Proposed by Percy V. Burnett, W. A. Ross and L. Stuart Stanley.

PRATTEN : FREDERICK RALPH [Final], "Ellsworth," Norton Hill, Midsomer-Norton, near Bath. Proposed by G. D. Gordon Hake, L. Stuart Stanley and Alfred J. Taylor.

PRINCE : ARTHUR [Final], 76 Coburg Road, Dorchester. Proposed by L. Stuart Stanley, Montagu A. Hall and C. W. Pike.

PRINCE : DORIAN HERBERT STANLEY [Final], c/o C. Beresford Marshall & Partners, 12 Grand Avenue, Hove, 3. Proposed by A. C. Townsend, C. Beresford Marshall and Sidney T. Hennell.

PYE : DAVID WILLIAM [Passed five years' course at the Architectural Association. Exempted from Final Examination], 14 Buckingham Street, Adelphi, W.C.2. Proposed by R. Furneaux Jordan, J. Alan Slater and P. J. Westwood.

RAW : KENNETH MALCOLM [Final], Town Hall, Southall, Middlesex. Proposed by L. Stuart Stanley and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

REDKNAP : PHILIP HOUGHTON [Final], 47 High View, Pinner, Middlesex. Proposed by A. H. Jones, Joseph Addison and Edwin Williams.

REEVES : ARTHUR GEORGE [Final], Tavyside, 24 Denziloe Avenue, Hillingdon, Middlesex. Proposed by T. P. Bennett, Joseph Addison and Edwin Williams.

RHODES : JOHN PERCY [Passed five years' course at the Bartlett School of Architecture, University of London. Exempted from Final Examination], The White House, 93 Chalkwell

Avenue, Westcliff-on-Sea. Proposed by Professor A. E. Richardson, G. Mackenzie Trench and L. Stuart Stanley.

ROBERTS : FREDERICK CHARLES, B.Arch. [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], Bryn Awel, Mold. Proposed by F. A. Roberts, Professor Lionel B. Budden and Gronwy R. Griffith.

ROTHER : VINCENT JACOB, B.Sc. [Final], 17 Robert Adam Street, W.1. Proposed by L. H. Bucknell, A. B. Knapp-Fisher and A. L. N. Russell.

RUTHERFORD : RONALD KERR [Passed five years' course at the Architectural Association. Exempted from Final Examination], Little Haugh, Banstead, Surrey. Proposed by Verner O. Rees, A. W. Kenyon and G. A. Jellicoe.

SAGE : HOWARD WILFRED MORTIMER [Final], Pine End, Upton Road, Stockbridge, Chichester. Proposed by Sidney T. Hennell, C. G. Stillman and J. Auty.

SANDERS : THOMAS BALE [Final], 5 Elmwood Gardens, Hanwell, W.7. Proposed by P. E. Culverhouse, J. Allner and W. Lee Clarke.

SMITH : KENNETH JOHN [Final], c/o R. A. Phillips, Esq., 4 Sandringham Mansions, Exeter Road, Bournemouth ; " Millendo," Blake Hill Crescent, Parkstone, Dorset. Proposed by Henry R. Collins, Philip Hardy and W. J. Mountain.

SPARROW : (MISS) AILEEN HOPE JOHNSTON, B.A.Oxon. [Passed five years' course at the Architectural Association. Exempted from Final Examination], 24 Woburn Square, W.C.1. Proposed by Serge Chermayeff, Howard Robertson and J. Murray Easton.

SPENCER : (MISS) PHYLLIS MARY [Passed five years' course at the Architectural Association. Exempted from Final Examination], 22 Cartwright Gardens, W.C.1. Proposed by W. Ernest Monro, Arthur W. Kenyon and Verner O. Rees.

SPOONER : JAMES CORKING, P.A.S.I. [Final], 16 Charteris Road, Woodford Green, Essex. Proposed by R. C. Foster, W. T. Curtis and Thos. E. Scott.

STEWART : RONALD ALEXANDER [Final], 37 Freer Street, Carlisle. Proposed by L. Stuart Stanley, H. E. Scarborough and Fawcett Martindale.

TAYLOR : MAURICE EWAN, A.M.T.P.I. [Final], " Woodcote," Penn Hill, Yeovil. Proposed by Charles B. Pearson, J. H. Forshaw and L. Stuart Stanley.

TETLOW : JOHN DAWE [Passed five years' course at the Liverpool School of Architecture, University of Liverpool. Exempted from Final Examination], 38 Falkner Square, Liverpool, 8. Proposed by Professor Lionel B. Budden, J. Ernest Marshall and Francis X. Velarde.

THOMAS : (MISS) ELMA ALBERTA JOAN [Passed five years' course at the Architectural Association. Exempted from Final Examination], 28 Upper Park Road, Hampstead, N.W.3. Proposed by Albert J. Thomas, Verner O. Rees and A. W. Kenyon.

THOMSON : WILLIAM FREDERICK [Final], 3 West End, Frome, Somerset. Proposed by Edwin Williams, Mowbray A. Green and Alfred J. Taylor.

TORRENS : RICHARD MICHAEL [Final], Stafford House, Billetfield, Taunton, Somerset. Proposed by Lawrence A. D. Shiner, H. Alex. R. Ellis and Thos. E. Scott.

TURNBULL : (MISS) ANNIE NICOL [Passed five years' course at the School of Architecture, Edinburgh College of Art. Exempted from Final Examination], 71 Nile Grove, Edinburgh. Proposed by E. J. MacRae, Chas. G. Soutar and T. Forbes Maclennan.

VAUX : EDWARD HUGH [Final], 17 Bedford Row, W.C.1. Proposed by Victor Heal, Cedric Ripley and Edward Maufe.

WAKEFIELD : PETER LAURENCE HARTLEY [Final], 27 Grove Road, Redland, Bristol, 6. Proposed by Eustace H. Button, C. F. W. Dening and G. D. Gordon Hake.

WARD : (MISS) ELIZABETH MURRAY [Final], 6 Regent Square, W.C.1. Proposed by Verner Owen Rees, G. A. Jellicoe and L. Stuart Stanley.

WATSON : ALEXANDER FREDERICK [Final], 6 Glenmore Road, N.W.3. Proposed by Joseph Addison, Edwin Williams and Herbert Kenchington.

WATT : GEORGE MILNE [Passed five years' course at the Aberdeen School of Architecture, Robert Gordon's Technical College. Exempted from Final Examination], Fairway, Bradford Road, Winsley, Wilts. Proposed by R. Leslie Rollo, T. Walker and W. Rudman.

WEBSTER : SYDNEY [Passed five years' course at the Leeds School of Architecture. Exempted from Final Examination], 9 St. Martin's Street, W.C.2. Proposed by Douglas W. Rowntree, F. L. Charlton and Joseph Addison.

WHITING : BASIL THORP [Passed five years' course at the Birmingham School of Architecture. Exempted from Final Examination], 1 Fox Hill, Selly Oak, Birmingham, 29. Proposed by George Drysdale, W. H. Godwin and Hubert Clist.

WILKINSON : ERIC VALENTINE [Special Final Examination], Maes-y-deri, Johnstown Hill, Carmarthen, West Wales. Applying for nomination by the Council under the provisions of Byelaw 3(*d*).

WILLIAMS : ALFRED EDWARD [Final], " Glyn," Oaken Grange Drive, Prittlewell, Essex. Proposed by Thos. E. Scott, C. Kennard and J. A. Minty.

WILLIAMS : IVAN [Final], 60 St. Philips Avenue, Penn Fields, Wolverhampton. Proposed by A. T. Butler, C. E. Bateman and Alfred Hale.

WILLIAMS : JONATHAN WINSTON [Final], 4 Bod Idris, Brymbo, near Wrexham. Proposed by F. A. Roberts and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

WILLS : LEONARD ALFRED [Passed five years' joint course at the School of Architecture, Cambridge University and the Architectural Association. Exempted from Final Examination], 42 Adelaide Road, N.W.3. Proposed by J. Murray Easton, J. N. Randall Vining and C. Beresford Marshall.

WOOLMER : STANLEY CHARLES [Final], 161 The Avenue, Tottenham, N.17. Proposed by Maurice E. Webb, Harold Dicksee and Bernard Dicksee.

WYLDE-BROWNE : ACTON WHITMORE, B.Arch. [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], 2 Leinster Square, Bayswater, W.2. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

YOUNG : RICHARD ARTHUR [Final], 81 London Road, Chelmsford, Essex. Proposed by L. G. Ekins, Joseph Addison and S. W. Ackroyd.

AS LICENTIATES (13)

ALLEN : FREDERICK HOWARD, Royal Chambers, 45A The Promenade, Cheltenham ; 49 The Promenade, Cheltenham. Proposed by Thomas Overbury, H. Stratton Davis and C. W. Yates.

BRACKEN : CYRIL EDGAR, 118-119 Tavistock Road, Plymouth ; 7 St. Michael's Road, Plymouth. Proposed by F. J. Taylor, J. Leighton Fouracre and A. Southcombe Parker.

BURRELL : ALVAN CLAUDE, 34 Old Queen Street, S.W.1 ; " Clare Lodge," Sawbridgeworth, Herts. Proposed by George Edw. Withers, E. B. Musman and Lawrence A. D. Shiner.

CARPENTER : ALFRED KEITH, 37 Sheen Road, Richmond, Surrey ; 171 Raeburn Avenue, Surbiton, Surrey. Proposed by W. E. Couch and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

CLARK : PHILIP OSWALD, County Borough of Gateshead, Architectural Department ; 82 Dryden Road, Low Fell, Gateshead-on-Tyne. Proposed by G. H. Lewin, R. Norman Mackellar and Geo. H. Gray.

DAY : FRANK REGINALD, 41 The Glen, Pinner, Middlesex. Proposed by John C. S. Soutar, Lawrence A. D. Shiner and Brig.-General A. B. Hubback.

FOX : ALBERT ROBERT, 18 Maddox Street, Hanover Square, W.1 ; 67 Park Drive, Grange Park, N.21. Proposed by T. E. Eccles, F. H. Swindells and T. M. Wilson.

GIBBERD : FREDERICK, 29 Sloane Square, S.W.1. Proposed by H. Victor Kerr, Francis W. B. Yorke and Serge Chermayeff.

HANNA : DENIS O'DONOGHUE, B.A., 3 College Square North, Belfast ; Monks Meadows, Holywood, Co. Down. Proposed by R. H. Gibson and the President and Hon. Secretary of the Royal Society of Ulster Architects under the provisions of Byelaw 3 (*a*).

NICHOLSON : CHRISTOPHER DAVID GEORGE, 100 Fulham Road, S.W.3 ; 29 Paultons Square, Chelsea, S.W.3. Proposed by Edward Maufe, Kenneth M. B. Cross and Professor C. H. Reilly.

NYE : DAVID EVELYN, 54 Tufton Street, Westminster, S.W.1 ; "Woodberry," Chislehurst Common, Kent. Proposed by T. F. W. Grant, Basil Oliver and John E. M. Macgregor.

OLIVER : WILLIAM RICHARD NORMAN, Assistant Architect, British Home Stores, Ltd., Abbey House, Baker Street, N.W.1 ; "Breinton," Rayners Hill, Pinner, Middlesex. Proposed by W. E. Trent, A. L. Farman and W. A. Ross.

OSWALD : GILBERT, 68 Northumberland Street, Newcastle-upon-Tyne ; 62 Kenilworth Road, Monkseaton, Northumberland. Proposed by P. Clive Newcombe, R. Burns Dick and R. Norman Mackellar.

ELECTION : 6 FEBRUARY 1939

In accordance with the terms of Byelaws 10 and 11, an election of candidates for membership will take place at the Council Meeting to be held on Monday, 6 February 1939. The names and addresses of the overseas candidates, with the names of their proposers, are herewith published for the information of members. Notice of any objection or any other communication respecting them must be sent to the Secretary R.I.B.A. not later than Monday, 30 January 1939.

AS FELLOW (1)

CLARK : RICHARD JOHN BOND [*A.* 1923], Public Works Department, Hong Kong. Proposed by Capt. C. Christie A. Hobbs, Fredk. G. Drewitt and A. G. Hewlitt.

AS ASSOCIATES (13)

BARTON : ROBERT HENRY, B.Arch. [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], 7 Onslow Road, Mt. Albert, Auckland, New Zealand. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

CLARK : DAVID EDWYN [Passed a qualifying Examination approved by the Institute of South African Architects], 54 Bruce Street, Waverley, Johannesburg. Proposed by S. C. Dowsett, A. Stanley Furner and Robert Howden.

COOPERBERG : HAROLD, B.Arch. [Passed five years' course at the School of Architecture, McGill University, Montreal. Exempted from Final Examination], 331 Madison Avenue, New York City, U.S.A. Proposed by Percy E. Nobbs, Philip J. Turner and H. L. Fetherstonhaugh.

CRANNA : ROBERT JAMES [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], 37 Gillies Street, Wollstonecraft, New South Wales. Proposed by Professor Leslie Wilkinson, Professor Alfred S. Hook and W. R. Richardson.

EDWARDS : DAVID ROWLAND VAUGHAN [Passed a qualifying Examination approved by the Institute of South African Architects], "Rust-en-Vrede," Rouwkoop Road, Rondebosch, Cape Town. Proposed by F. K. Kendall, James Morris and Professor L. W. Thornton White.

FORSTER : KARL MURRAY [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], Capel Court, 375 Collins Street, Melbourne. Proposed by Charles E. Serpell, Leslie M. Perrott and Roy K. Stevenson.

FREIDMAN : LEWIS ABRAHAM [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], 241a Rainbow Street, Randwick, N.S.W., Australia. Applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

HARVIE : (MISS) EDYTHE ELLISON [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], c/o Messrs. Stephenson & Turner, 374 Little Collins Street, Melbourne, Victoria, Australia. Proposed by A. G. Stephenson, Leslie M. Perrott and Kingsley A. Henderson.

JOHNSTON : GEORGE W., B.Arch. [Passed five years' course at the School of Architecture, University College, Auckland, New Zealand. Exempted from Final Examination], P.O. Box 21, G.P.O., Suva, Fiji Islands. Proposed by C. Reginald Ford, W. H. Gummer and applying for nomination by the Council under the provisions of Byelaw 3 (*d*).

MAYES : COLIN WALTER [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], 57 Cabramatta Road, Mosman, New South Wales. Proposed by Colonel Alfred Spain, B. J. Waterhouse and Henry E. Budden.

MILLER : CLIVE MCDONALD [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], 49 Waterdale Road, Ivanhoe, N.21, Melbourne, Victoria. Proposed by Leslie M. Perrott, Charles E. Serpell, J. H. Harvey and F. L. Klingender.

PRIESTLEY : PETER MCLAREN, B.Arch. [Passed a qualifying Examination approved by the Royal Australian Institute of Architects], 54 Fullers Road, Chatswood, Sydney, New South Wales. Proposed by Professor Leslie Wilkinson, Henry E. Budden and Donald K. Turner.

TALPADE : JAYAVANT RAMRAO [Final], 2 Dukar Lane, Girgaum, Bombay No. 2, India. Proposed by H. Foster King, D. W. Ditchburn and P. P. Kapadia.

R.I.B.A. PROBATIONERS

During the month of August 1938 the following Probationer was enrolled :—

Bowman, Alexander William, *London*.

During the month of September, 1938, the following were enrolled as Probationers of the Royal Institute :—

Anderson, John Baskerville, *Wallington*. Anderton, John David, *Doncaster*. Arch, Dennis Alexander, *London*. Atkinson, George Arthur, *Kingston-upon-Hull*. Austin, Douglas Harold, *London*. Bance, Roy Ernest Keith, *Surbiton*. Bath, Charles Frederick, *Chessington*. Berry, Alfred Leslie, *Lincoln*. Birkett, Walter, *Perth*. Boyce, Dennis George, *Osterley*. Bradford, Howard Owen Turnor, *Eastbourne*. Bragg, George Ronald, *Sutton Coldfield*. Brown, Dennis Herbert, *East Grinstead*. Browne, Kenneth George, *Birmingham*. Burrell, James Albert, *London*. Caplan, David, *Newcastle-on-Tyne*. Carter, Eric Leslie, *London*. Chancellor, Charles Frederick Wykeham, *Chelmsford*. Cook, Laurence Arthur Lavington, *Parkstone*. Cranswick, Phillip Anthony, *Doncaster*. Crocker, Alan Edward, *London*. Cross, Arnold, *Formby, Lancs*. Cullen, James Garroway, *Fauldhouse, By Bathgate, West Lothian*. Daines, Edward Joseph, *Chatteris*. Dawes, Percy Ronald, *Eastbourne*. Denley, Kenneth John, *Swansea*. Dharadhar, Trikamdar Liladhar, *Bombay*. Doudney, Edward Guy, *Ilford*. Driver-Jowitt, Evelyn Edwin Ashton, *Salisbury, Southern Rhodesia*. Evans, Leonard John, *London*. Evans, Robert Henry, *Gosport*. Evans, Thomas David, *Haverfordwest*. Eves, Kathleen Mary Heath, *London*. Farjeon, Gervasse Laurence, *London*. Gani, Abdul Quadir Abdul, *Bombay*. Gibson, John Carmichael, *London*. Gillett, Ralph Percival Henry, *East Croydon*. Grant, Gordon Collie, *Longmorn, Morayshire*. Gray, James, *Stirling*. Grimes, James William Pleasant, *Richmond*. Grylls, Garland Glynn, *Sevenoaks*. Hall, Arnold, *Lanchester, Co. Durham*. Hall, John Gilbert, *Westcliff-on-Sea*. Halliday, Bryce Stevenson, *Birkenhead*. Hartley, Albert, *Wigan*. Harvey, Robert William, *Dudley*. Heathcote, Cyril, *London*. Henderson, Geoffrey Charles, *London*. Hilton, Douglas Bert, *Banbury*. Holt, Alexander, *Blackpool*. Horsbrugh, Patrick Bethune, *London*. Johnson, Bernard Victor, *London*. Johnson, John Stuart, *Gainsborough*. Johnson, Gerald Arthur, *Shipley*. Jones, Albert Frederick, *Farnborough, Kent*. Knight, Jack Alfred, *Leicester*. Laing, Kenneth William, *Dunning, Perthshire*. Lamb, John, *Ballater, Aberdeenshire*. Lamey, Ted Slade, *Appledore*. Loader, Kenneth André, *Tunbridge Wells*. Luxton, Edward Harvey, *Wiveliscombe, Somerset*. McEwen, Murray, *Norwich*. McEwan-Waghorn, Charles Ewan, *Leigh-on-Sea*. McKelvie, James Norval, *Troon*. Mair, John Lindsay, *Wellington, N.Z*. Maxwell, Walter, *Blackburn*.

(*To be continued*)

Notices

THE SECOND GENERAL MEETING, MONDAY, 21 NOVEMBER 1938, AT 8 P.M.

The Second General Meeting of the Session 1938-1939 will will be held on Monday, 21 November 1938, at 8 p.m., for the following purposes :—

To read the minutes of the Inaugural Meeting of the Session held on Monday, 7 November 1938 ; formally to admit members attending for the first time since their election.

Mr. Oliver W. Roskill to read a paper on " Economics of the Building Industry—Achievements and Anomalies."

SPECIAL GENERAL MEETING, MONDAY, 21 NOVEMBER 1938

A Special General Meeting will be held on Monday, 21 November 1938, at the conclusion of the General Meeting for the following purposes :—

To consider, and if thought fit, to pass the following Resolution :—

" That the Council be authorised to raise by way of loan from the Prudential Assurance Company, Ltd., secured by registered charge upon the Institute's properties Nos. 66 and 68 Portland Place, London, W.1, such sum upon such terms as to interest and capital repayment as have been agreed between the Council and the Prudential Assurance Company, Ltd."

INFORMAL GENERAL MEETING, WEDNESDAY, 14 DECEMBER 1938, AT 6.30 P.M.

The first Informal General Meeting of the Session arranged by the Junior Members Committee will be held on Wednesday, 14 December, at 6.30 p.m., when there will be a discussion on " Official A.R.P. and the Architect."

Professor J. B. S. Haldane, M.A., F.R.S., has promised to open the discussion.

Full details will be given in the next issue of the JOURNAL. In the meantime members are asked to make a note of the date.

THE USE OF TITLES BY MEMBERS OF THE ROYAL INSTITUTE

In view of the passing of the Architects Registration Act 1938, members whose names are on the Statutory Register are advised to make use simply of the title " Chartered Architect " after the R.I.B.A. affix. The description " Registered Architect " is no longer necessary.

Members who are qualified for registration and have not already done so are reminded of the importance of applying for such registration without delay. Full particulars will be sent on application to the Secretary R.I.B.A.

LICENTIATES AND THE FELLOWSHIP

The present regulations governing the examination of Licentiates who, being otherwise eligible, wish to qualify for admission as Fellows provide that in the first place the candidate shall submit for approval by the Council working drawings of one or more of his executed buildings, supplemented by photographs and by original sketches or measured drawings of actual work, and—

(1) should the work so submitted be, in the opinion of the Council, of sufficient merit to exempt the candidate from further examination, he may be so exempted ;

(2) if the work submitted is approved by the Council the candidate is required to submit himself to an examination ;

(3) if the work so submitted is, in the opinion of the Council, inadequate, his application is not further entertained.

By a resolution of the Council passed on 4 April 1938, on and after 1 January 1939 all candidates whose work is approved will be required to sit for the examination, which will be the design portion of the Special Final Examination, and no candidates will be exempted from the examination.

NOTE.—The above resolution will not affect Licentiates of over 60 years of age applying under Section IV, Clause 4 (c) (ii) of the Supplemental Charter of 1925.

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 6 February 1939 (overseas candidates 8 May 1939) they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 10 December 1938.

R.I.B.A. ANNUAL DINNER 1939

The Annual Dinner will take place on Friday, 10 February 1939. Full particulars will be issued to members in due course.

BRITISH ARCHITECTS CONFERENCE, DUBLIN, 21-24 JUNE 1939

The Annual Conference next year of the Royal Institute of British Architects and its Allied and Associated Societies will be held in conjunction with the Centenary Celebration of the Royal Institute of the Architects of Ireland and will take place at Dublin from 21 to 24 June 1939.

The Royal Institute of the Architects of Ireland have in hand the preparation of a most attractive programme and particulars will be issued in due course.

THE R.I.B.A. LONDON ARCHITECTURE BRONZE MEDAL, 1938

The attention of members is drawn to the Form of Nomination and the conditions, subject to which the award will be made, for a building built within a radius of eight miles from Charing Cross during the three years ending 31 December 1938, enclosed with this issue of the JOURNAL. Any member of the Royal Institute is at liberty to nominate any building for consideration by the Jury.

Nominations should be sent to the Secretary R.I.B.A. not later than 28 February 1939.

THE RECEPTION OF NEW MEMBERS AT GENERAL MEETINGS

It has been decided by the Council to modify the procedure for the introduction and reception of new members at General Meetings. In future new members will be asked to notify the Secretary beforehand of the date of the General Meeting at which they desire to be introduced and a printed postcard will be sent to each newly elected member for this purpose. They will be asked to take their seats on arrival in a special row of seats reserved and marked for them. At the beginning of the meeting, on the invitation being given to present themselves for formal admission, each new member will be led up to the Chairman by one supporter, and the Chairman will formally admit him to membership.

The introduction and reception of new members will take place at any of the forthcoming Ordinary General Meetings of the Royal Institute with the *exception of the meetings on the following dates :—*

23 January 1939 (Presentation of Prizes).
3 April 1939 (Presentation of Royal Gold Medal).

OVERSEAS APPOINTMENTS

When members are contemplating applying for appointments overseas they are recommended to communicate with the Secretary R.I.B.A., who will supply them with any available information respecting conditions of employment, cost of living, climatic conditions, etc.

CESSATION OF MEMBERSHIP

Under the terms of Byelaw 21 the following have ceased to be members of the Royal Institute :—

As Fellow :

Horace George Turner.

As Associate :

Herbert Raymond Myerscough-Walker.

As Licentiates :

Arthur James.
Henry John Welch.
Stephen Grylls Wilson.

Competitions

The Council and Competitions Committee wish to remind members and members of Allied Societies that it is their duty to refuse to take part in competitions unless the conditions are in conformity with the R.I.B.A. Regulations for the Conduct of Architectural Competitions and have been approved by the Institute.

While, in the case of small limited private competitions, modifications of the R.I.B.A. Regulations may be approved, it is the duty of members who are asked to take part in a limited competition to notify the Secretary of the R.I.B.A. immediately, submitting particulars of the competition. This requirement now forms part of the Code of Professional Practice in which it is ruled that a formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

BEDWORTH, WARWICKSHIRE : NEW COUNCIL OFFICES

The Bedworth Urban District Council invite registered architects whose offices are situated in Warwickshire to submit in competition designs for new Council Offices to be erected on a site fronting High Street, Bedworth.

Assessor : Mr. S. N. Cooke [*F.*].
Premiums : £50, £25 and £15.
Last day for submitting designs : 31 January 1939.
Last day for questions : 31 October 1938.

Conditions of the competition may be obtained on application to Mr. Maurice Armson, Clerk of the Council, Council Offices, Bedworth, near Nuneaton. Deposit £1 1s.

BRIERLEY HILL, STAFFS : NEW MUNICIPAL BUILDINGS

The Brierley Hill Urban District Council invite architects of British nationality to submit in competition designs for new Municipal Buildings.

Assessor : Mr. Verner O. Rees [*F.*].
Premiums : £250, £150 and £100.
Last day for submitting designs : 30 November 1938.
Last day for questions : 30 June 1938.

Conditions of the competition may be obtained on application to Mr. F. Oakes, Clerk to the Brierley Hill U.D.C., Council Offices, Moor Street, Brierley Hill, Staffs. Deposit £2 2s.

COSELEY, STAFFS : NEW SCHOOL

The Coseley Education Committee invite registered architects whose addresses are in the area of the Birmingham and Five Counties Architectural Association to submit in competition designs for a new Public Elementary Junior and Infants School to be erected at Lanesfield.

Assessor : Mr. A. C. Bunch [*F.*].

Premiums : £100, £30 and £20.

Last day for submitting designs : 7 January 1939.

Last day for questions : 19 November 1938.

Conditions of the competition may be obtained on application to Mr. Fred J. C. Poole, Secretary for Education, Education Offices, Somerset House, Coseley, nr. Bilston. Deposit £3 3s.

FALKIRK : NEW NURSES' HOME FOR THE ROYAL INFIRMARY

The Directors of the Falkirk and District Royal Infirmary invite Chartered and/or Registered Architects in private practice in Scotland to submit in competition designs for a new Nurses' Home to be erected in the Infirmary grounds.

Assessor : Mr. Charles G. Soutar [*F.*].
Premiums : £150, £100 and £50.
The last day for submitting designs has been extended to 14 November 1938.
Last day for questions : 5 September 1938.

GODALMING : NEW MUNICIPAL BUILDINGS

The Godalming Borough Council invite architects of British nationality to submit in competition designs for new Municipal Offices.

Assessor : Mr. Stanley C. Ramsey [*F.*].
Premiums : £200, £150 and £100.
Last day for submitting designs : 31 January 1939.
Last day for questions : 31 October 1938.

Conditions of the competition may be obtained on application to Mr. A. P. V. Moon, Town Clerk, Town Clerk's Office, Godalming. Deposit £1 1s.

NEWCASTLE-UPON-TYNE : NEW TOWN HALL

The Council of the City and County of Newcastle-upon-Tyne invite architects of British nationality to submit in competition designs for a new Town Hall.

Assessor : Mr. Verner O. Rees [*F.*].

Premiums : £750, £500 and £300.

The last day for submitting designs has been extended to 31 December 1938.

Last day for questions : 6 July 1938.

ST. GEORGE'S HOSPITAL : RECONSTRUCTION

The President, Vice-President, Treasurer and Governors of St. George's Hospital invite architects practising in the United Kingdom and Northern Ireland to submit in competition designs for the reconstruction of St. George's Hospital, Hyde Park Corner.

Assessors : Dr. H. V. Lanchester [*F.*].
Mr. T. A. Lodge [*F.*].
Premiums : £500, £300 and £200.
Owing to the recent international situation the closing date has been extended to 14 January 1939. Competitors are requested not to send in designs before 15 December 1938.

Last day for questions : 1 March 1938.
Conditions of the competition may be obtained on application to The House Governor, St. George's Hospital, Hyde Park Corner, London, S.W.1. Deposit £2 2s.

SHREWSBURY : NEW SENIOR SCHOOL

The Corporation of Shrewsbury invite architects to submit in competition designs for a new Senior School to be erected at Broom Hall, Ellesmere Road, Shrewsbury.

Assessor : Mr. C. Cowles-Voysey [*F.*].
Premiums : £200, £150 and £100.

The last day for submitting designs has been extended to 30 January 1939.

Last day for questions : 10 September 1938.
Conditions of the competition may be obtained on application to Mr. R. F. Prideaux, Town Clerk, Guildhall, Shrewsbury. Deposit £1 1s.

FORTHCOMING COMPETITIONS

Other competitions which it is proposed to hold, and the conditions for which are not yet available, are as follows :—

BRIGHOUSE : NEW MUNICIPAL BUILDINGS
Assessor : Mr. James R. Adamson [*F.*].

EDMONTON : NEW TOWN HALL BUILDINGS
Assessor : Mr. E. Berry Webber [*A.*].

GLOUCESTER : NEW SWIMMING BATH AND FIRE STATION
Assessor : Mr. C. F. W. Dening, R.W.A. [*F.*].

METROPOLITAN EAR, NOSE AND THROAT HOSPITAL : RECONSTRUCTION
Assessors : Messrs. Charles Holden [*F.*] and Lionel G. Pearson [*F.*].

OLDHAM : ELECTRICITY OFFICES AND DEPARTMENTAL BUILDINGS
Assessor : Professor R. A. Cordingley [*F.*].

SOUTH SHIELDS : ASSEMBLY HALL AND LIBRARY
Assessor : Mr. Arthur J. Hope [*F.*].

WREXHAM : NEW TOWN HALL
Assessor : Mr. Herbert J. Rowse [*F.*].

MEMBERS' COLUMN

Owing to limitation of space, notices in this column are restricted to changes of address, partnerships vacant or wanted, practices for sale or wanted, office accommodation, and appointments vacant. Members are reminded that a column in the Advertisement Section of the Journal is reserved for the advertisements of members seeking appointments in architects' offices. No charge is made for such insertions and the privilege is confined to members who are definitely unemployed.

NEW PARTNERSHIP

MR. FRANCIS M. SHEA [*L.*], having acquired the practice of Messrs. Reeve, Reeve & Walker, has entered into partnership with Mr. R. Dalby Reeve, the surviving member of the firm of Reeve & Reeve. The new firm, whose offices are situate at No. 6 Cecil Square, Margate, Kent, will be known as Reeve, Reeve & Shea.

PARTNERSHIPS WANTED

ASSOCIATE, aged 46, with considerable engineering experience and qualifications, and small practice, offers his assistance to a qualified architect with offices in London with a view to partnership. Reply to Box 1408, c/o Secretary R.I.B.A.

F.R.I.B.A. (41), who has conducted own practice in London for the past 11 years, wishes to acquire a partnership in well-established practice. Would accept position as assistant for trial period. Capital available. Box 1208, c/o Secretary R.I.B.A.

ASSOCIATE (46), extensive experience London and provinces, desires to acquire partnership in established provincial practice or position with a view to partnership. Keen and energetic. Capital available. Replies will be treated in confidence.—Box 8108, c/o Secretary R.I.B.A.

ASSOCIATE, with considerable varied experience in design of large stores, offices, flats, houses, decorations and in private practice, seeks partnership in well-established London firm. Capital available. Replies in strict confidence.—Box 9108, c/o Secretary R.I.B.A.

ASSOCIATE, 28, with six years' architectural experience, ability in office organisation, and good knowledge of materials, requires progressive position with a view to partnership. London preferred. Capital available and useful contacts.—Reply Box 1398, c/o Secretary R.I.B.A.

CHANGE OF ADDRESS

MR. CECIL PRANGNELL [*A.*], late staff architect to Messrs. Harold Samuel Properties and Associated Companies, of 15 Stratton Street, Mayfair, W.1, having acquired the practice of Messrs. E. H. & A. C. Harbottle, County Chambers, Queen Street, Exeter, as from 5 September, is now in practice solely at the latter address.

OFFICE ACCOMMODATION TO LET

MR. ROBERT ATKINSON [*F.*] has converted No. 19 Manchester Square, W.1, into a number of self-contained office suites. It is redecorated throughout, the rooms are large, light, and lofty; passenger lift, central heating, separate lavatory accommodation. Keys for inspection at 13 Manchester Square.

MEMBER offers half share of 3-room office in Great James Street, Bedford Row, London, W.C.1. £45 p.a. Good car-parking facilities.—Apply Box 1468, c/o Secretary R.I.B.A.

ATTRACTIVE suite of four well-fitted ground floor offices to let in good house near the Haymarket, S.W.1; furnished or unfurnished. Moderate rent on yearly tenancy or longer.—Box 2708, c/o Secretary R.I.B.A.

ASSOCIATE with suite of two rooms on first floor of office building in High Holborn would like young member to share same. Rent £35 per annum inclusive.—Apply Box 2808, c/o Secretary R.I.B.A.

OFFICE ACCOMMODATION WANTED

FELLOW, practising Architect and Diocesan Surveyor, requires office address in London, West End or Hampstead districts preferred, for correspondence, interviews, etc.; and the possibility of collaboration with architectural work if desired. Moderate terms.—Write Box 6108, c/o Secretary R.I.B.A.

Architects' and Surveyors' Approved Society

ARCHITECTS' ASSISTANTS' INSURANCE FOR THE NATIONAL HEALTH AND PENSIONS ACTS

Architects' Assistants are advised to apply for the prospectus of the Architects' and Surveyors' Approved Society, which may be obtained from the Secretary of the Society, 113 High Holborn, London, W.C.1.

The Society deals with questions of insurability for the National Health and Pensions Acts (for England) under which, in general, those employed at remuneration not exceeding £250 per annum are compulsorily insurable.

In addition to the usual sickness, disablement and maternity benefits, the Society makes grants towards the cost of dental or optical treatment (including provision of spectacles).

No membership fee is payable beyond the normal Health and Pensions Insurance contribution.

The R.I.B.A. has representatives on the Committee of Management, and insured Assistants joining the Society can rely on prompt and sympathetic settlement of claims.

Architects' Benevolent Society

66 PORTLAND PLACE, W.1
FOUNDED 1850

The object of the Society is to afford assistance to architects, architects' assistants, and their widows and children by means of grants and pensions.

Subscriptions and donations of any amount are urgently needed. An annual subscriber of £1 1s. is entitled to recommend annually two applicants for relief.

PENSION AND FAMILY PROVISION SCHEME FOR ARCHITECTS

This scheme has been specially designed by the A.B.S. Insurance Committee for members of the R.I.B.A. and its Allied and Associated Societies. It provides:—

1. A pension for members on retirement at age 65.
2. Widows' pension—payable to the widow from the time when, if the member had lived, he would have attained age 65.
3. Family protection—if the member dies before age 65 a yearly payment is made to his dependants from the date of his death till Benefit No. 2 becomes available.

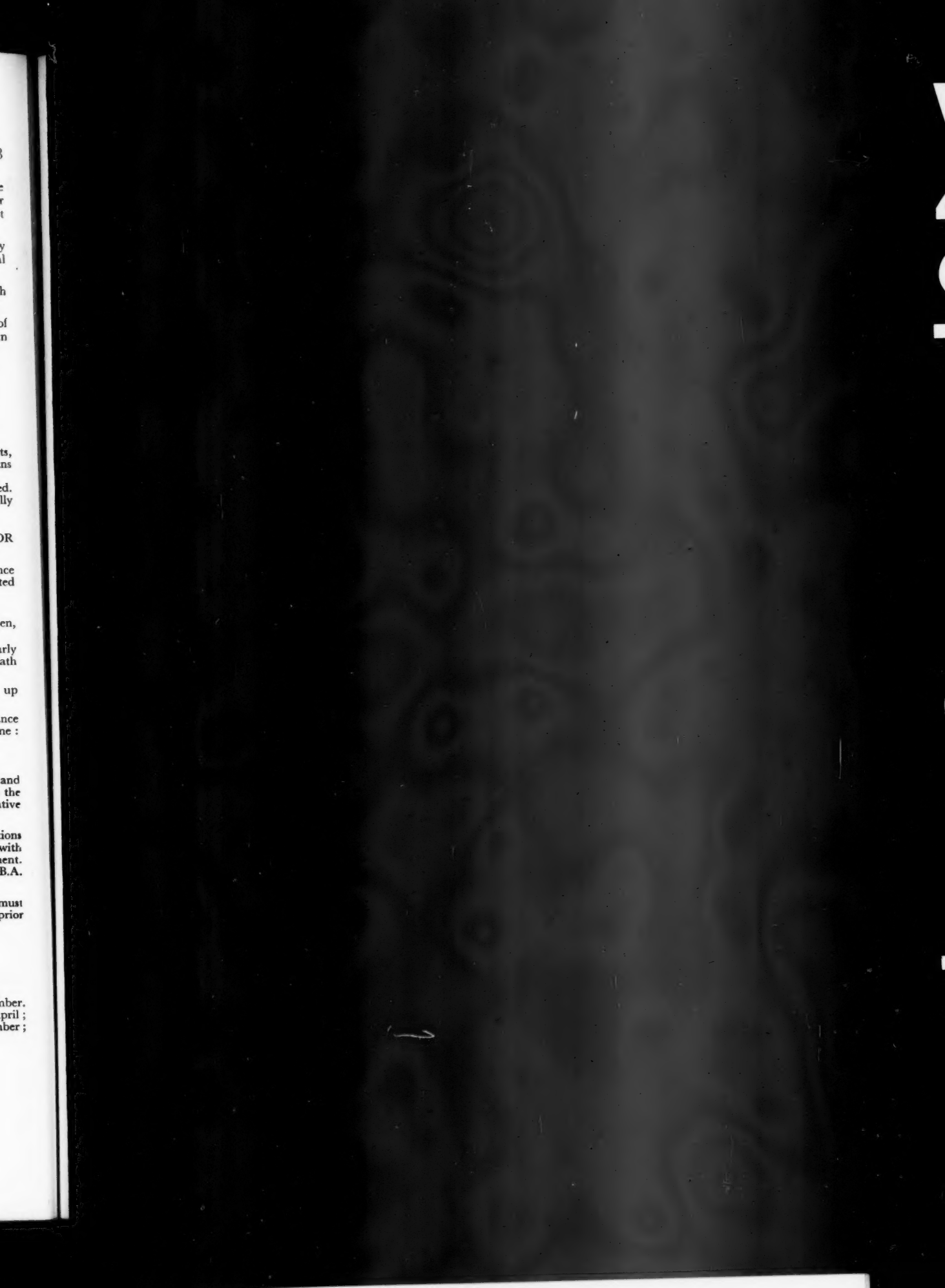
The benefits may be purchased in units of £50 per annum up to a maximum of £500 per annum.

Please write for full particulars to the Secretary, A.B.S. Insurance Department, 66 Portland Place, London, W.1. Telephone: Welbeck 5721.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

Members sending remittances by postal order for subscriptions of Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A. and crossed.

Members wishing to contribute notices or correspondence must send them addressed to the Editor not later than the Tuesday prior to the date of publication.

R.I.B.A. JOURNAL

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